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Address.

THE SURGICAL TREATMENT OF BILIARY CALCULI, WITH SPECIAL REFERENCE TO HEPATOTOMY.

PRESIDENT'S ADDRESS, DELIVERED AT THE FOURTEENTH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, HELD AT CLEVELAND, SEPTEMBER 17, 18 AND 19, 1901.

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BIRMINGHAM, ALA.

INTRODUCTION.

For the distinguished honor conferred on me at our last meeting in my election to the Presidency of this Association, numbering among its members so many leaders in gynecology and abdominal surgery, I beg first of all to return my most profound thanks. The Association occupies a unique position among our national special societies. It has overcome difficulties and accomplished results scarcely equaled and not excelled by any other special organization in this country. Its foundation was a necessity, it being admitted even by the members of the American Gynecological Society that that society was not sufficiently representative. Dr. Marion Sims, who, in 1880, in his presidential address urged the increase of the limit of membership from 60 to 100, which was done in 1884, said: "It is not to be denied that there is a very large element of discontent among men who are our equals in everything, and who might be organized into a formidable rival national association. Dr. Theophilus Parvin in his address, in 1893, made this statement: "These words"—Dr. Sims'—"were prophetic, the prophecy is history and there is a formidable rival national association. The association numbers many able members and has done very creditable and useful work." It was after our Association was established and its success assured that the Gynecological Society began a general and active canvass for Fellows and increased its membership from 58 to 94. Its Fellows were able men—leaders as a rule—and as a society it gave prestige to American gynecology, but there were many of their peers who had not been encouraged to become members, and, on the contrary, a number of distinguished and able workers had been denied this privilege.

The following from the presidential address of Dr. Robert Battey, in 1888, testifies to the above: "In the past, America has been, in a sense, the home of gynecology. To-day no country can boast of so large a number of intelligent workers in this department of the healing art. In our vast country the number of medical practitioners who devote themselves exclusively to gynecology is quite large, whilst those who make it a leading pursuit are to be counted by thousands. Surely out of this army of gynecological specialists one hundred men can be found who might worthily occupy places as working Fellows in this Society. Why is it, then, our seats remain year by year scarcely more than half filled? When I say to you in all sincerity that if I myself were to-day outside, instead of inside the ranks, distrust would forever bar me from becoming an applicant at your doors except upon special invitation, I can but feel that I am verging toward the true explanation of our forty-two vacant chairs. Diligent workers in medical science are, with an occasional exception which but proves the rule, modest gentlemen, not at all inclined to push themselves where they are not wanted. It is this class of members which we especially desire, and it is this class, too, who are least likely to make application for the Fellowship without some advance on our part which would give probable assurance of welcome."

It was natural for some men who were invited to come into our Association to prefer the older and well-established organization, hallowed by the names of so many of our distinguished countrymen and also for a number of our members to go into that society. The great majority, however, preferred the new organization, projected on a broader plane, and would not yield to inducements to give it up, and, as a result, this Society has increased in number and influence, and no one can deny that it is a representative American Association of our foremost gynecologists and abdominal surgeons. Its thirteen volumes of transactions are in every way highly creditable to American gynecology. They are not excelled by the published work of any other American society and reflect the greatest credit upon our members and especially the ability of our scholarly secretary, to whom we owe so much for the present high position this organization occupies. He has been its sculptor, and in the language of our first president, Dr. Taylor, "Upon the obelisk of the Association, erected by the earnest work of its members, there will stand in imperishable letters the name of William Warren Potter." I wish that time would permit my mentioning the names of those noble, earnest workers who joined Drs. Potter and Vander Veer in projecting and establishing this great Association.

The Association's first president, who served a second term, closed his last address in these words: "The recent advancement in all departments of science and the wonderful practical application of newly acquired facts, disarm incredulity and we dare place no limit upon the

possible acquisitions of the near future. The Utopias of to-day may be the familiar dwelling-places of to-morrow; and, actuated by the noble sentiment which so characterizes our profession, of seeking the truth for the truth's sake, we may be sure of grand additions to our knowledge and skill, and I can utter no better benediction than the hope that this Association may bear its full share of making these acquisitions." To-day I am able to state with much pride that many of the mooted questions in abdominal and pelvic surgery have been made clearer by our Fellows and that they have added materially to our store of knowledge.

The need of specialism in the profession and of special societies for the promotion of the several specialties have been ably and most exhaustively treated by our foremost men. The national special societies have wielded a wonderful influence in the profession and have added greatly to our reputation abroad. Our medical literature has been enhanced in every way through them. They have been incentives to higher aims and better work in all departments. As individual societies they should be encouraged, but their union into a national congress or association is not conducive to the best interests of the American profession. The greatest and most influential organization of the United States should be the AMERICAN MEDICAL ASSOCIATION. Both the specialists and the general practitioners of this country should belong to that Association and take pride in their membership and exert their best energies in behalf of its meetings, as urged by our fellow, Dr. Wright. Many of our ablest men, as claimed by him, have been conspicuous by their absence. Failure to be an active contributor to the work of this national organization should be a justly deserved reflection on a prominent physician, whether he be a general practitioner or a specialist. Several years ago there was some reason for the want of interest in the organization, as there was too much politics and too little scientific work. However, for the past few years the scientific work of the Sections has been of a high order, and a great deal has been accomplished in the time allowed. With the adoption of the new organization providing for the House of Delegates to take charge of all business matters and questions of a judicial or personal nature, more time will be provided for scientific work, the Sections having as many sessions as provided for the meetings of our national special societies. The special societies, composed as they are of leaders in the several specialties, are under obligations to the American profession to assist in the better organization of these Sections. Many of the members of these societies are officers and active working members of the Sections of the American Medical Association and can accomplish this result. There must be one class of membership for the Section that can be held by only those who are recognized as teachers and leaders in order to make membership very desirable and sought after. I would suggest that this class be known as Fellows and that they pay, in addition to the annual dues of the Association, $5 annually for Section dues, which fund should be expended in the publication of the proceedings of the Section. The officers and authors of papers should come from the Fellows. All members would have the privilege of taking part in the discussions and thus an opportunity would be provided for the ordinary or Association members to show themselves worthy of a fellowship. Such an organization of the Sections with volumes of Transactions, publishing a list of the Fellows, would give stability and a permanency to the Section work that could scarcely be had in any other way. With the House of Delegates for the general association and the Roll of Fellows and Association Members for each of the Sections, we would become the most scientific and influential medical organization the world has ever known.

The American Association of Obstetricians and Gynecologists has it in its power to so organize the Section of Diseases of Women, and the members of this Section, I believe, could induce the leaders in the other Sections to adopt the plan outlined or something after that plan. It is not enough that we should succeed as specialists and that our special societies should succeed, but they should prove a source of strength to the entire profession which can be best subserved by strengthening the American Medical Association, making it not only a power in scientific work, but giving it the prestige which will enable scientific medicine to receive due recognition from our national government. If our Fellows accomplish as much, they will have rendered the medical profession an invaluable service.

I now come to the subject which I have selected for discussion:

THE SURGICAL TREATMENT OF BILIARY CALCULI, WITH SPECIAL REFERENCE TO HEPATOTOMY.

Biliary calculi being found in from 2 to 20 per cent. of autopsies, the frequency increasing with age, makes the subject one of vast importance. Cases are now quite properly studied according to the location of stones and the resultant pathologic conditions. In every case, if the diagnosis could be made, the stones should be removed, in view of the multiform changes they are capable of producing. Fortunately for the patient, in a large proportion no trouble or symptoms ever occur. Hence, the diagnosis during life could be made only by an abdominal section, as the *x*-ray is not capable of demonstrating their presence except in a very small per cent. of cases.

The correct surgical management of gall-bladder and cystic duct calculi was first planned and put into practice in 1878, by that surgical genius from Alabama, who did so much to advance gynecology—the immortal Marion Sims. There has been little improvement on his original operation. Bobbs, of Indiana, in 1867, opened a gall-bladder containing calculi, but it had become attached to the abdominal parieties and his operation was nothing more than the incision of a simple abscess, as has been conclusively shown by Joseph Eastman. Cholecystostomy, with the attachment of the walls of the gall-bladder to the peritoneum and deep fascia of the abdominal wound is ideal and attended by less than 1 per cent. mortality. Only a small per cent. of fistulæ will follow this technique, while 40 per cent. has been the result of attaching the gall-bladder to the skin.

Much has been claimed within the past five years for cholecystendysis, with or without drainage of the abdominal cavity. While this operation has something to commend it, being simple and obviating the disagreeable discharge of bile, for from three to four weeks, from a fistula, yet its field is limited when the etiology and pathology of cholelithiasis are given due consideration. Stagnation of bile with altered epithelium and infection from the typhoid or colon bacillus, as found in many cases, where there is no evidence of infection from the character of the fluid in the bladder, would contraindicate its closure. If stones should be found, where an examination of the gall-bladder is conducted through

the abdominal incision made for the relief of pelvic disease or other abdominal trouble, cholecystendysis might be performed with advantage. I would advise strongly against the operation as performed by Kelly. The first incision in the abdomen should be closed and the opening made as in the classic cholecystotomy. Cases in which calculi would be found by this method are not associated with inflammatory changes and are the ones that go through life without symptoms referable to the gall-bladder, being found at the autopsy or in the dissecting room.

Cholecystectomy—first recommended in 1882 by Langenbuch—is indicated in gangrene of the gall-bladder, multiple or perforating ulcers, stricture of cystic duct, phlegmonous cholecystitis, empyema with great danger to the walls of the viscus, and malignant disease. It should not be done as a rule in chronic cholecystitis, when the bladder is too small to attach to the abdominal wall, notwithstanding it is recommended by Robson and others. Drainage with tube and gauze is to be preferred. It should never be completed until the common duct has been thoroughly explored and found to be patent. In the majority of cases it is advisable to trim off the diseased portion of the bladder from the liver instead of removing the entire viscus, and drain with gauze. The mortality of this operation is from 3 to 25 per cent., according to the condition Being called for in serious inflammatory and malignant diseases makes its mortality larger than cholecystostomy.

On November 25, of last year, Hans Kehr[1] had performed 547 gallstone operations, with the following results: 204 conservative operations on the gall-bladder (cystostomies, cystotomies, cystendyses) with 4 deaths; 121 cystectomies, with 4 fatal cases, and 97 choledochotomies, with 6 deaths. The mortality was 47 per cent. in gallstone diseases complicated with carcinoma of the liver, of the gall bladder, of the choledochus or the pancreas, or if there existed diffuse purulent cholangitis, peritonitis or cirrhosis of the liver.

Since 1890 the surgery of the common duct has attracted wide attention. Schloth, in 343 cases of biliary calculi, found 2.6 per cent. in the duct. Fenger estimates that from 2.6 to 15 per cent. of cholelithiasis are choledochus cases. Mayo Robson thinks from a surgical standpoint 20 per cent. would not be too large an estimate, which corresponds with Kehr's experience. At the Indianapolis meeting of this Association, Dr. Joseph Eastman, Indianapolis, stated that he had operated on thirty-three cases of cholelithiasis and had never found a stone in the common duct and rather questioned the reported cases of others. I replied to him that he would probably find one in his next operation, as some surgeons reported less than 3 per cent. in the duct. Three days after I returned to my home, I was called to a woman, from Indianapolis, who had been having for years attacks of recurring pain in the epigastrium extending to lumbar and lower dorsal region, with rigors and fever, followed by tenderness over liver. She had slight jaundice, which deepened at time of attacks—clearly a case of movable choledochus stone. Her Indianapolis physician had made the diagnosis of stone in the duct, but the patient had declined to consult a surgeon at that time.

Courvoisier estimates that in two-thirds of the cases there is but one stone. Mayo Robson's experience shows a much larger proportion of multiple calculi in the duct. In about two-thirds of the cases the stone is in the duodenal end of the duct, and, of the remaining third, the stones are divided about equally between the hepatic and middle portions of the duct. Fenger's valuable studies on movable choledochus stone have been extremely helpful.

In a small per cent. only of cases can the stone be pressed from the duct into the duodenum or manipulated into the gall-bladder, but this should be attempted when it seems at all possible—especially where the gall-bladder has been opened, and after the stones have been removed from the bladder and the cystic duct.

Choledochotomy *without suture* is called for in the large majority of common duct stones. Suture of the duct may be practiced in the absence of marked cholangitis, if the patient's condition has not been rendered serious by much suffering and protracted jaundice and if the duct is enlarged. Gauze drainage should be resorted to in all cases, it matters not how carefully the stitching of the duct has been carried out. The time required for suturing the duct adds very greatly to the gravity of the operation in cholemia of long duration, and it would be contrary to surgical practice elsewhere to suture when "offensive muddy bile" escapes from the duct. Kehr refers to several cases which recovered after the giving way of the duct sutures, when death seemed imminent before the offensive discharge appeared. When there are extensive adhesions in the locality of the duct, the wound in choledochus should be left open and gauze used, even though the patient's general condition would warrant a protracted operation, in order to relieve the cholangitis, which may extend if the duct is closed. Kehr insists that the surgeon must be guided by the pathologic condition as to suturing or draining. He says tampon in all cases, "but never suture if the bile is muddy and cholangitic symptoms have preceded." Morrison's pouch, which will hold nearly a pint of fluid, makes drainage in this location entirely satisfactory. The lumbar stab is preferred by some surgeons, but the entire safety of transperitoneal drainage has been abundantly demonstrated.

Unquestionably choledochotomy *with suture* is being more and more supplanted by the open treatment of the duct and the mortality is being correspondingly lowered. Kehr, who has done more gallstone operations than any other surgeon, claims that he first advised the open treatment of the duct, but we know that he is in error, as the operation has been advocated in this country since the early part of 1892, at which time experiments were conducted by me on lower animals and reported to the American Medical Association. At that time and for some years afterward it was admitted by surgeons that the operation would succeed on normal organs with normal bile, but not otherwise. I afterwards induced pathologic changes in the biliary passages and demonstrated that the operation was successful in infected cases. Experimental and clinical experience demonstrates conclusively the safety of the operation.

Courvoisier is credited with the first choledochotomy, which was done in 1890, the duct being sutured. Marcy, however, reports a case in which he sutured the duct, in 1889. For a few years after this in a limited number of cases where the duct was inaccessible or where it was found impracticable to suture, it was drained, but the operation was regarded as being very incomplete and unsatisfactory. McBurney was the first to advocate the removal of stones impacted in the duodenal portion of the duct through incision in the duodenum.

1. Prof. Kher's Introduction to the American Translation of his book on Gall-Stone Diseases.

Kehr's record of 97 choledochotomies with 6 deaths is remarkable and is due to his having drained in extreme exhaustion and cholemia and where there was marked cholangitis. Much of his success, he claims, is due to his great experience in operating, which has enabled him to better master the technique. He says he now does choledochotomies in a half-hour which formerly required two or three hours. As but few operators can have this great clinical experience with gallstone disease, I would advise those who only occasionally operate for cholelithiasis to induce pathologic changes in the biliary reservoir and passages in dogs and by operative procedures to correct them. Dexterity in operating and greater familiarity with this class of surgery may be had in this way.

At the Indianapolis meeting, two years ago, I reported two cases in which hepatotomy had been done in obstruction to the biliary passages, and at the Pan-American Medical Congress, in Havana, presented the abstract of a paper on this subject. The operation is indicated in cases of obstruction with enlarged liver, where the gall-bladder or ducts can not be isolated, or the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts. It will be only exceptionally called for and the cases will be fewer as the surgeon's experience increases in choledochus operations; he will then be enabled to better locate the bladder and ducts so much changed by inflammatory processes. After the patient has been relieved of cholemia by the escape of bile from the incision in the liver, an operation with less danger may be done for the removal of the obstruction in the duct. In addition to the above indications I think the operation should be resorted to in hepatitis before it has reached the stage of pus formation, if the liver does not rapidly become smaller after drainage of the biliary reservoir or the ducts. My attention was first attracted to the value of the procedure in a case in which the amount of pus removed was not more than one-half ounce, but in which the division of the biliary canals resulted in the escape of large quantities of bile for many weeks.

The patient was seized with violent pain over the region of the gall-bladder and required a hypodermic of morphin, ¼ grain, before being relieved.[2] The liver was tender and extended an inch and a half below the margin of the ribs. The skin was slightly discolored. There was nausea and some vomiting; temperature was 102 in the afternoon, on the next day 99.5 in the morning and 100.5 in the afternoon; the pulse was less than 100. The daily temperature remained the same for a week, everything pointing to an abscess of the liver. On October 28, 1898, one week after the attack, the abdomen was opened and the right lobe of the liver aspirated, not more than one-half ounce of pus being removed. I made an incision and with the finger searched for this small cavity; in so doing a wound of considerable depth and great size, perhaps two inches in length, was produced. There was very profuse hemorrhage, which was controlled by iodoform gauze packing. The liver tissue gave way under the packing, making the wound much larger. The patient stood the operation well. A large quantity of bile was discharged through the gauze, necessitating the frequent change of dressings. The bile continued to pass in large quantities for three weeks and in small quantities for another two weeks, about the amount usually discharged in a case of cholecystostomy. The liver rapidly decreased in size, and the patient is in better condition now than for several years. The extensive wound of the liver evidently assisted in his recovery by severing the small biliary canals and emptying the liver.

I did a hepatotomy on the following case with choledochus stone:[3] Mrs. S., of Shelby county, aged 28 years, consulted me in December, 1898. She had suffered from attacks of epigastric pain and fever for four months. There was some tenderness elicited by pressure over the liver, the margin of which extended to midway between the ribs and umbilicus. There was no enlargement of the gall-bladder. Several attacks of pain would occur in a day or a week, coupled with slight jaundice. There would be nausea and some vomiting. The chills and fever simulated malaria. The diagnosis of a stone, loose in the common duct, was made. Operation was advised as soon as the present attack was over. In a few days, however, she was seized with violent pain in the right hypochondriac region, with fast pulse, 130 to 140, temperature 103, and vomiting. The peritonitis was localized. It was decided to perform a drainage operation to bridge the patient over, and subsequently the operation to remove the stone. There were extensive adhesions to the under surface of the liver which were partly separated. There was no pus around the liver, but great bleeding occurred, which was controlled by gauze packing. The right lobe of the liver was aspirated, and it was thought that some pus was removed, but a more thorough examination showed that this was incorrect. Free incision was made in the right lobe, which was followed by considerable bleeding. Iodoform gauze was packed in the liver wound. There was considerable discharge for some days, of a dark bloody fluid, not a great deal of bile. The liver returned to its normal size in a few weeks, but there was occasional recurrences of epigastric and subscapular pain with fever, showing that the stone was still in the duct. The spleen became very much enlarged four months after the operation. About two months later, when the patient had decided to have the radical operation for the removal of the stone, it was passed. Patient was entirely relieved.

Hepatotomy was done in the following case[4] for the relief of cholemia in obstruction of hepatic ducts: Mrs. H., of St. Clair county, was referred to me by Dr. J. W. Ash, Springville, Ala., December, 1898. The patient was aged 60. Six weeks previously, without great pain, she rapidly became jaundiced. The jaundice gradually became more intense. Liver extended almost to umbilicus. There were no nodules to be made out. The patient's condition was extremely unpromising, and no encouragement was given the family. An exploratory operation was done December 31 and the gall-bladder was found empty and quite white. No stone could be made out in the common duct. A thorough investigation of the under surface of the liver was not made, owing to the very critical condition of the patient and the size of the liver. However, it was evident that the obstruction was in the hepatic duct or its branches. The bladder was attached to the abdominal incision more to anchor the liver than otherwise. An incision was made in the right lobe and the bleeding was free, but controlled by iodoform gauze packing. The patient lived five days and died from exhaustion. I had hoped to sever some of the biliary canals and thus drain the liver till the patient

2. Wounds of the Liver and Biliary Tract. Vol. xii, Trans. American Assn. of Ob. and Gynecologists.

3. Ibid.
4. Ibid.

was somewhat relieved of cholemia. There was a free discharge of very dark colored bile. The autopsy revealed a large malignant nodule in the transverse fissure, which completely obstructed the branches of the hepatic duct. The biliary canals throughout the liver were very much distended.

In July and August of this year, 1898, I conducted a number of experiments on dogs to determine the value of incisions in the liver in relieving biliary obstruction.[5] Five dogs were killed and the liver injected with fluid either through the gall-bladder, the common duct having been tied, or through the common duct. Incisions were then made in all parts of the liver, with the result that streams of the fluid would issue from the bile canals and there was general oozing of the fluid from the wounded surfaces of the organ if much force were used. Six dogs were anesthetized and the liver injected as above and this fluid with blood would flow as a rule freely when much force was used in injecting the fluid. Four had the common duct tied and after twenty-four hours the same experiment was conducted under anesthesia with similar results. In nine the common duct was ligated and gauze packed around the field of the gall-bladder and ducts. After from twenty-four hours to a week the liver would be incised in one or more places and as a rule the bile escaped satisfactorily through the gauze. It would be very dark after prolonged obstruction. Two of the dogs died, and the others were killed in from five days to two weeks after the second operation. Before killing them and while under the anesthetic, fluid was injected through the bladder or duct, and would flow from the wounds which had been made in the liver at the second operation, and also from incisions made at that time. Five had the gall-bladder removed and cystic and common ducts ligated, but as gauze was not used at the time of the operation to wall off the general cavity, they died in from twenty-four to forty-eight hours from shock and from the escape of bile from the liver where gall-bladder had been removed—the obstruction in the duct forcing bile from the liver.

Other experiments were conducted, but they added nothing to the above. While, as I have stated, the field for hepatotomy in gallstone diseases is very restricted, yet in those few cases it offers the surgeon much assistance in bridging the patient over till in better condition for a radical operation.

As we advance in the surgery of the ducts the field for cholecystenterostomy grows smaller. Certainly it should not be done, leaving a stone in the duct. Malignant disease and agglutination of the duct call for it. The Murphy button makes the operation quite simple.

Treatment of Hypertrophic Rhinitis with Zinc Chlorid.—A few drops of a 10 per cent. solution of zinc chlorid injected under the mucous membrane, is an effective means of curing hypertrophic rhinitis in those cases in which the swollen mucous membrane is smooth, soft and easily depressible, and by its distention over the lower turbinals obstructs the nasal passage. When it is thick and resistant this method has no chance of success. Viollet reports in the *Gaz. Hebd.* of August 18, that he has thus cured 5 out of 8 patients, the improvement unaltered for more than a year to date. His experience is much more extensive, but he omits those not scrupulously traced. His failures were due to his ignorance at first of the conditions of success as above described.

5. Experiments were conducted at the Birmingham Medical College, and I was assisted by Dr. R. E. Hogan, Assistant Professor of Gynecology and Abdominal Surgery.

Original Articles.

THE ROLE OF THE MYOCARDIUM IN PERICARDITIS.*

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Pericarditis is a condition of danger in any one or all of the following ways: 1, as a focus of infection; 2, as a cause of mechanical or reflex disturbance of the heart action; 3, as a starting point for a spreading inflammatory lesion.

As a focus of infection its danger is greater than is that of pleurisy or possibly even of peritonitis. The exudations of the pericardium are habitually more hemorrhagic or purulent than are those of the pleura in similar or the same infection and the clinical indications of general infection are also significant of a more virulent process.

The mechanical dangers are usually of little consequence, and, as has been found in the case of endocarditis, wider knowledge gives evidence that the circulatory disturbances of pericarditis are occasioned by changes in the heart muscle to a much greater extent than by mechanical or reflex disorders of the organ. The association of endocarditis with pericarditis is especially common in childhood, and either process may be the primary or they may occur simultaneously. The resulting condition is generally a heart so crippled that the continuance of life beyond the time of adolescence is purchased at the price of the extremest watchfulness. Fortunately, this association is not a very common one.

I hasten to explain that my reference to the two conditions, endocarditis and pericarditis, in such a way as to indicate that they constitute a pathologic entity, is largely out of deference to usage now somewhat antiquated. There are cases that we may on this ground term endo-pericarditis, but the essence of the malady is a "pancarditis" and its dangers are proportioned to the completeness with which the whole of the heart is involved. There are cases of pericarditis with very slight involvement of the underlying muscle, cases with considerable muscular disease and slight endocarditis, and finally, instances of severe involvement of all three. The last are the cases that have customarily received the name endo-pericarditis.

The myocardial element has not been unrecognized by the pathologists, but clinicians are only beginning to realize its significance. Chronic myocardial disease as a cause of clinical symptoms does not constitute a new conception. The degenerations have long been looked upon as important clinical conditions; of these, curiously enough, fatty degeneration has until recently fairly monopolized the clinician's attention, though the far more important condition is fibroid degeneration or inflammation. This may be independent of any other cardiac disease or it may be associated with endocarditis or pericarditis. The independent form is of greatest interest at the present time because its development is less clearly known, and its existence is less certainly recognizable. This independent myocardial fibrosis, or myofibrosis cordis, however, is not a matter of special interest in our discussion.

* Read in a Symposium on Pericarditis at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section.

Of more importance is the fibrosis accompanying chronic pericarditis or endocarditis. In these cases the myocardium becomes affected by direct extension or in consequence of circulatory disturbances. The terminal result of this condition, as in independent myofibrosis, must always be cardiac dilatation, if intercurrent disease have not prematurely terminated life. Before, however, this terminal condition has developed, clinical signs of failing circulation may arise as obscure indications of the myocardial weakness associated with the pericardial disease.

I shall not allude to the physical signs of simple pericardial disease, such as frictions, mammary or costal retraction, etc., but would recall the symptomatic and physical evidences of muscular incompetency in cases of combined pericardial and muscular disease. As in the independent myofibrosis, there may be a gradual loss of vigor, a premature senility, a tendency to irregularity of the heart to a peculiar grayish pallor, to gastric disturbances, etc., but all of these indications are less prominent than in the independent form because chronic pericarditis is more frequent at an early age, when the senile type of clinical manifestations are unlikely to occur.

The best evidences of myocardial association with pericarditis are therefore those derived from physical examination. First of all I wish to insist that marked hypertrophy of the heart develops in a surprisingly short time in acute cases. In a recent case in a boy of 9, I found such rapid enlargement of the heart that it seemed impossible that the enlargement could be other than dilatation. The autopsy, however, showed practically no dilatation and very great thickening of the walls. This enlargement, however, is not true hypertrophy; it is largely degenerative, and the clinical signs would indicate this. The pulse is weak and of low tension—out of all proportion to the degree of enlargement of the heart. The slapping, irritable impulse of Martius accompanied with a weakened and quick pulse is of prime importance in indicating myocardial association with the pericardial disease.

What I have just said refers especially to acute cases. The chronic cases are attended with less pronounced signs of myocardial disease, but it may be said with considerable emphasis that peripheral congestion or cyanosis, the peculiar enlargement of the liver that has been termed pericardial cirrhosis of the liver, the occurrence of dropsies and marked irregularities of the heart, are always indicative of associated myocardial trouble and therefore of grave prognostic significance.

I do not wish to be understood as saying that myocardial disease always accompanies pericarditis. In a strict pathologic sense there is probably always some involvement of the muscle of the heart, at least to the extent of slight sub-pericardial infiltration, but in a clinical sense the heart wall is often unaffected. It should, however, be recognized that even such slight myocardial disease may occasion striking signs and symptoms. Thus, Fisher has found great disturbance of the heart action and of the sounds—a Flint's murmur—when there was only a moderate sub-pericardial disease. In this connection I wish also to recall that Romberg has found in simple endocarditis thrombosis of the myocardial vessels and myocardial degeneration. This contribution is of very great importance, for in no other way could the marked disturbances of the heart's action be explained in cases of endocarditis with anatomically trivial lesions. I would couple this with what occurs in pericarditis. The symptoms of the latter are largely the result of the underlying myocardial disease.

We are thus forced to the conclusion of Jürgensen that pancarditis is the diagnosis of the future, its type may be endocarditic, pericarditic, or myocarditic, but the immediate result and the final prognosis are to a large extent dependent upon the degree of involvement of the myocardium. A few dangers, such as general infection, embolism or mechanical interference with the heart by extensive effusion, are independent of the condition of the heart wall, but, these conditions excepted, the important criterion for prognosis is the condition of heart muscle.

ADHERENT PERICARDIUM.*

ROBERT H. BABCOCK, M.D.
CHICAGO.

It is so manifestly impossible in the few minutes allotted to me to consider this subject in its entirety, and so many of the points bearing on this subject have already been considered by preceding speakers, that it seems best to restrict my remarks to the clinical aspects of this disease.

We meet with adherent pericardium in two forms: 1, as a result of pericarditis interna which has led to a more or less complete and firm union of the two layers of the sac, without adhesion to the surrounding structures; 2, as a result of pericarditis interna et externa which has caused adhesion not only between the pericardium and epicardium, but also between the sac and the contiguous structures, as the chest wall, diaphragm and lungs.

In this second form there is often such an extensive development of fibrous tissue within the mediastinum, with consequent union of all the structures therein contained, that the condition has been termed chronic adhesive or fibrous mediastino-pericarditis. In some cases this proliferation of fibrous tissue is not limited to the mediastinum, but invades the pleural and peritoneal cavities in the form of a general serositis.

Not only is the capsule of the liver thickened, but the connective tissue hyperplasia invades the organ, becoming especially marked in the interior of the lobules and in the fissure. In time this fibrous tissue undergoes contraction and the liver becomes reduced in size and hard, very much as it does in hepatic cirrhosis. The once enlarged and chronically congested organ shrinks, becoming dense and thin bordered, more or less granular, but still fairly regular in outline, excepting that its notch is greatly exaggerated. According to Eisenmenger, it is by the contraction of the connective tissue within the fissure of the liver and consequent compression of the portal vessels that the shrinkage in the size of the organ leads to ascites, the same as does the atrophy in Laennec's hepatic cirrhosis.

Finally, the adherent pericardium may exist without chronic inflammatory changes in the endocardium or myocardium, but in most instances it is associated with valvular disease, or with chronic myocarditis.

SYMPTOMS.

These depend not only on the extent and situation of the pericardial adhesions, but also upon the co-existence, or not, of other lesions as valvular defects. If the two layers of the sac alone are adherent, and particu-

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larly if the adhesions are limited in extent, cardiac hypertrophy may be the only effect and the circulation is carried on so adequately that no symptoms are produced. If, on the contrary, the two surfaces of the pericardium become adherent, while the heart is in a state of dilatation from acute myocarditis, or in consequence of valvular disease, and if the organ is therefore not able to return to its previously small size, the effect upon the circulation is eventually disastrous and symptoms due to stasis declare themselves.

If the pericarditis was external as well as internal and led to fixation of the sac to some of the surrounding parts, the heart is held more or less firmly as in a vise and is hampered in its work. Its systoles are less effectual than normal, since the fixation of its walls serves to hold the cavities in a state of distension, and its contents are imperfectly discharged. Stasis inevitably results. If to this condition is united a valve lesion, as mitral regurgitation, the effect is particularly bad and symptoms are not long deferred. It is for this reason that chronic, adhesive mediastino-pericarditis is so likely to prove a serious affection. In all cases there is much difference in the severity and manifestation of symptoms. In one individual these are referable chiefly to stasis within the pulmonary vessels, shortness of breath on exertion, cough due to bronchial congestion and a marked disposition to attacks of bronchitis. In another case palpitations either with or without dyspnea are called forth by effort and excitement occasioning much discomfort and it may be alarm. In these cases the pulse is apt to be persistently rapid, it may be irregular and the cardiac impulse is exaggerated in force and extent. In a few cases without co-existing valvular defect, the disturbance of circulation is not pronounced, being shown only by digestive disorders lasting for years, and attributed to simple dyspepsia or to chronic gastritis, but rarely to their proper cause on account of the obscurity of the pericardial lesion and the difficulty or impossibility of its diagnosis.

In most cases there is nothing to distinguish them from ordinary instances of mitral disease or from cardiac dilatation. Physical examination usually discloses enlargement of the liver from passive congestion. This enlargement is generally greater than one would expect from the cardiac findings, and I have been impressed by the obstinacy of this hepatic engorgement under treatment. It is not only difficult to reduce its size by ordinary means of treatment, but the congestion of the organ displays a striking tendency to recur as soon as treatment is abandoned.

I have had under observation for several years a female patient whose mitral valve leaks and whose enormously enlarged heart is apparently completely encased in fibrous tissue that binds down the organ on all sides, so that no amount of rest in bed or digitalis seems to reduce its size in the least. The liver has always been greatly engorged, extending for a long time nearly to the crest of the ileum, and requiring the daily use of saline laxatives to relieve the patient from pain and discomfort. For the past year the organ has been gradually diminishing somewhat in size and growing in thinness and hardness. This patient has displayed remarkably little dyspnea on effort, but is greatly annoyed by the pounding and tumultuous action of the heart, this sensation being specially noticeable in the epigastrium. Of late she has had a great deal of cough, difficult mucous sputum and upon several occasions slight hemoptysis. She has to be extremely careful in her diet, and her urine and menses have become scanty.

Another female patient with pronounced mitral insufficiency has pericardial adhesions that bind down the left side and base of the heart, fixing the apex beat immovably in place far to the left and downward, but the border of the right heart is apparently free from adhesions. Whereas the left ventricle never varies in size under any conditions, the right heart, as shown by the area of cardiac dulness, becomes dilated with the greatest ease and rapidity. The liver, which is persistently enlarged, fluctuates somewhat in size in accordance with the state of the right heart, but even when at its smallest always extends from 2 to 3 inches below the inferior costal margin, no matter how vigorous may be the onslaughts upon it by means of epsom salts. This patient's symptoms are not of the digestive organs, but are those of shortness of breath and a rapid pounding action of the heart and general weakness. The urine remains fairly abundant and the menses are too profuse and protracted. She is always promptly benefited by absolute rest in bed, a milk diet, cathartics and digitalis, although this last never materially slows the heart.

When in all such cases compensation finally gives way the breakdown is complete and irreparable. Symptoms of stasis declare themselves everywhere, but do not differ materially from those of cardiac asystolism from any other cause.

The most interesting class of cases are those whose clinical features resemble a case of atrophic cirrhosis of the liver in its terminal stage. These are the cases of chronic fibrous mediastino-pericarditis. They not infrequently pursue a latent course for many years, and even after symptoms have set in are not recognized as pericardium until they come to autopsy. This applies particularly to cases in which the pericardial synechia is unassociated with valvular disease. Not only is there chronic engorgement of the liver, but the contraction of the fibrous tissue interferes at length with portal circulation and induces serious symptoms.

The patient's attention is first attracted by an increase in the size and firmness of his abdomen. In some instances icterus accompanies, or even precedes, this increase of girth. At length, driven to seek medical advice, he is discovered to have ascites usually without edema of the lower extremities. The physician examines the heart and urine, detects no heart disease and discovers no albumin, but perhaps some bile. The case is put down as one of hepatic cirrhosis. The following is an illustrative case:

Not long ago I saw in consultation a man of 55, who had been intensely jaundiced for nearly two years, and in August, 1900, was tapped for ascites. This had rather speedily recurred, and had been reduced by apocynum cannabinum for a time, but had again been drawn off the morning of the day I saw him. He had suffered from articular rheumatism eighteen years before, but experienced no shortness of breath or other discomfort since. The thin bordered, dense, slightly granular feeling liver extended in the median line nearly to the umbilicus and from one costal arch to the other, being lost beneath the ribs just outside the right mammillary line. Owing to the recent paracentesis, the peritoneal cavity was free from fluid and there was no edema.

The cardiac area was somewhat increased to the right and downward, the sounds were clear and strong and free from murmurs. The apex beat was rather tapping in character, in the 5th left interspace within the nipple line, and there was not very well marked epigastric pul-

sation. In the 5th and 6th interspaces between the apex beat and sternum, and also in the sulcus between the ensiform appendix and left costal cartilages, a systolic retraction could be perceived both by palpation and inspection. Furthermore, when the patient was instructed to draw a full slow breath, the right external jugular could be seen to bulge out during the inspiration. This distension was also palpable. Pulsus paradoxus could not be determined. I had no hesitation in making a diagnosis of pseudo-cirrhosis of the liver, secondary to adherent pericardium. Such cases may run a protracted course, requiring repeated tappings, and the patients succumb to exhaustion, if not to the effects of stasis.

DIAGNOSIS.

Under some circumstances this may be one of the easiest of matters, in other cases it is one of the most difficult. Diagnosis is difficult, if not impossible, when the sac is adherent to the heart, but not to the neighboring structures. The signs then relied upon are, inspiratory distension, instead of normal inspiratory collapse of the external jugulars, or other superficial veins; diastolic collapse of the cervical veins, known as Friedreich's sign; pulsus paradoxus, a by no means constant or reliable sign; and the detection of cardiac hypertrophy for which no adequate cause can be discovered. When the pericardium is adherent to the chest wall or diaphragm other signs are often developed that render diagnosis easy and certain. These are, a systolic retraction of one or more interspaces in close proximity to the apex beat or of the epigastrium; fixation of the apex, so that its gravitation from side to side with the turning of the patient's body or its descent during inspiration is prevented, or much restricted; a systolic retraction followed by a diastolic rebound of the chest wall that, by some authors, is considered pathognomonic; a systolic sinking or drawing in of the 10th and 11th intercostal spaces below the inferior angle of the left scapula, and occasionally of the right, known as Broadbent's sign. These are all very significant and much more frequently discovered than are those previously mentioned. In some instances auscultation detects friction sounds of a fine crackling or creaking character along the sides or apex of the sac, which sounds are synchronous with cardiac contractions and are sometimes elicited only during inspiration. A fine creaking sound is heard in some cases at the base of the heart upon the body of the sternum, while the patient slowly raises and lowers the arms. The detection of such pleuro-pericardial, or even strictly pleural friction sounds, furnish indirect or corroborative evidence of the existence of an adherent pericardium, and, taken in connection with cardiac hypertrophy and hepatic engorgement, would render the diagnosis extremely probable, even in the absence of more distinctive signs.

Finally, in some cases in which positive signs can not be obtained, the diagnosis of this condition is rendered possible by a process of exclusion, together with the history of a previous rheumatic attack, and the discovery of an hepatic enlargement for which no other predisposing cause can be ascertained. The elaboration of this subject as well as the prognosis and treatment will have to be left to the speakers that follow.

Isolation Hospital.—Colorado Springs, after a fruitless endeavor to combine with El Paso County in the erection of an isolation hospital, has decided to build one for the city alone, at a cost of $2000.

TUBERCULAR PERICARDITIS.*

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AIKEN, S. C.

This is a disease much more prevalent than has heretofore been generally accepted. A great many cases of obscure heart trouble in the anemic when we find no valvular disease, and when there are no marked, but certain masked symptoms of the disease, is due to tubercular pericarditis. Especially is this true if the patient later begins to lose weight and assume a cachectic appearance.

Tubercular pericarditis generally progresses insidiously. It is communicated to the pericardium through the lymphatics, arterial or venous systems, and from that tends to extend to the peritoneum and other serous membranes. It is difficult to diagnose the disease as tubercular pericarditis in contradistinction to the non-tubercular pericarditis, unless it is secondary to a demonstrable tubercular lesion. However, if we are in doubt we can examine some of the aspirated fluid for the tubercle bacilli. If our search were negative we could not be positive that the disease was not tubercular, for the bacilli are very hard to find. It would then be necessary to inoculate a guinea-pig with the fluid, observing precaution of asepsis and if, after death, the glands are found to contain bacilli the diagnosis would be tubercular pericarditis.

The exudate is generally of the plastic, fibrinous, cheesy, or purulent form.

The symptoms of tubercular pericarditis are those that we would expect from an enlarged and adherent heart, together with the general symptoms of malaise and more disturbance of the general system than is found in the simple pericarditis, or that secondary to rheumatism or one of the exanthematous diseases.

CASE I.—Male, white, aged 19, had been under my care for phthisis. The disease started in the apex of the right lung and progressed to stage of cavity, which was on the right side, behind second rib. Case was quiescent; the cavity was contracting; expectoration lessening rapidly, and he had stopped having an afternoon fever and night sweats.

The case was progressing satisfactory until the patient suddenly complained of pain in left side, became short of breath; his pulse rose to over 160; temperature became high and there was dulness over whole of left side. Upon careful examination the voice sounds were found and some râles at the apex of the left lung. The area of heart dulness was greatly enlarged and the sounds indistinct; the to-and-fro friction sounds, so significant of pericarditis, were audible. There was slight bulging of the intercostal spaces, but there did not seem to be enough to aspirate, and as the patient was tubercular it was not necessary to examine the fluid. The patient gradually became worse from the general tuberculosis and died from tuberculous diarrhea. The valves remained good throughout the illness and the brain was clear. In the last week only did the urine show marked albumin.

The interesting points in this case were the sudden involvement of the left lung and pericardium, when the case was apparently progressing favorably. At first it seemed possible that pneumonia was developing, and it was only after careful examination that pericarditis was diagnosed. There was not the large amount of fluid which we generally expect to find in the tubercular pericarditis, and it is to be regretted the more on that account that a postmortem was not permitted. Tubercle bacilli were found in the sputum.

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CASE 2.—This patient was seen at St. Luke's Hospital through the kindness of Dr. Beverly Robinson. He entered March 19, 1901. Male, aged 38, American laborer.

Family history is negative.

Past history: He does not remember diseases of childhood, but has never been sick in bed since that time. No rheumatism, no tonsillitis. Drinks tea, coffee and much beer and whisky. No gonorrhea. Had chancroid several years ago, no other venereal disease.

Present history: Four months ago, after a debauch, he began to have pain in his right side, which was shooting in nature and increased on deep inspiration. No coughs, chills or vomiting. This pain lasted for a month, then he began to cough and raise small amounts of blood-stained mucus. This was accompanied by some fever, worse in the afternoon, and he also suffered from a great weakness, though he did not go to bed.

Two weeks ago he began to have similar pain in his left side and the cough grew worse. Very slight expectoration. At the same time he had pain in the cardiac region, and began to suffer from palpitation. Has been short of breath at times during the sickness, but he is not troubled with it now. Feet do not swell; eyes normal; urine normal, no stomach symptoms. Appetite is poor; bowels regular. Chief complaint is pain on both sides. He did not expect to remain in hospital, but only wanted something for the pain.

Examination: Rather large frame; well nourished; skin and mucous membranes of fair color; tongue broad, moist tremulous, slightly coated; pupils normal.

Heart: Right border 2¼ inches from median line; apex beat not felt; dulness in fifth space, 5¾ inches from median line. Pulsation of the whole left chest was felt. Heart action very rapid, 172. A superficial, high-pitched, systolic murmur was heard between nipple line and sternum in third, fourth and fifth left intercostal spaces; modified by pressure of stethoscope. No further murmur detected. Pulse very rapid, 172; it was regular, very small and weak. Lungs: Right lung had diminished motion; below clavicle vocal fremitus increased. Dulness increasing to flatness extended posteriorly up to spine of scapulæ. Feeble vocal and respiratory sounds; some bulging of intercostal spaces. Right chest at ninth dorsal spine, 17¾ in.; left chest, 19¼ in. Left side marked dulness near sternum in fourth interspace, clear fluid was found in ninth intercostal space. Rest negative.

Liver: Dulness begins in fourth space middle clavicular line, extends 2 inches below free border of ribs; edge felt at this level, firm, flexible, not sharp. Spleen felt 1½ inches below free border.

Inguinal and epitrochlear lymphatic nodes enlarged. Knee-jerks present; more marked on right side; no ankle clonus; some blueness of finger nails.

Patient improved greatly, and on April 25 some fluid was drawn from the pleura of the right chest for examination. A guinea-pig was inoculated with it on the same day, and on May 19 was killed and tubercle bacilli were found in the characteristic cheesy pus from the enlarged lumbar gland. Miliary tubercles were found in the great omentum, liver, spleen, kidney, lungs and on the abdominal parietal peritoneum.

Condition May 26: Patient is comatosed; breathing, Cheyne-Stokes in character. Right pupil reacts to light; the left pupil is oval in outline and does not react to light. No apparent paralysis of ocular muscles; only slight rigidity of back of neck. Paralysis of right hand and arm, skin cold and somewhat blue; no response to pin-prick over area of right hand, arm and right side of chest. Knee-jerk very slight on either side; no ankle clonus. No tubercle bacilli found in sputum or in fluid from pleura, although that they were present in the latter was proven by their presence in the guinea-pig.

Sanitary Progress in Spain.—Since the Spanish authorities appointed Dr. A. Pulido to be at the head of the national health department, a number of reforms have been instituted in regard to public hygiene. A decree that went into effect October 31 enforces compulsory declaration of all cases of certain infectious diseases. The list includes leprosy and tuberculosis.

CARDIAC LESIONS AS OBSERVED IN THE NEGRO, WITH SPECIAL REFERENCE TO PERICARDITIS.*

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MEMPHIS, TENN.

In that class of colored people who come as patients to my outdoor clinic, syphilis, tuberculosis, and gonorrhea in a great measure constitute the trinity of diseases. It must then follow that renal, pulmonary and cardiac lesions are quite frequently observed, and constitute a field rich and ripe for the student of clinical medicine and physical diagnosis. In studying cardiac lesions in the negro, I have found that their classification and relative frequency does not correspond to those in the whites, as described by our text-books on physical diagnosis. Briefly, I shall direct your attention to these lesions and as they occur in the negro.

Our text-books teach that mitral regurgitation is the most frequent of all cardiac valvular lesions, and that in 50 per cent. of cases it follows as a sequel of endocarditis, the results of acute inflammatory rheumatism. This rule, however, does not hold good in the colored race. From the 25,000 negroes that have come under my observation at the clinics during the last five years, I have had ample opportunity to reach conclusions. These conclusions justify me in stating that aortic lesions are much more common than mitral, aortic regurgitation standing first.

When we consider the vascular changes in aortic regurgitation, the accompanying arteriosclerosis; when we reflect that syphilis, alcoholic abuse, muscular strain, improper food, faulty elimination, etc., play a leading rôle in the pathology of both aortic insufficiency and arterial sclerosis, it can readily be seen why the negro should become subject to lesions arising in and around the aortic valves. The classis corbovis reaches its highest degree of development in the negro with aortic regurgitation, and also in interstitial nephritis. In every postmortem that I have witnessed where aortic regurgitation had been diagnosed during life, where a general atheroma, a well-marked arteriosclerosis, a calcareous degeneration of the aortic valves and arch of the aorta, with evidence of previous atheromatous patches, where there was the contracted kidney of interstitial nephritis, and the large hypertrophied ventricle, the typical corbovis has been found. The youngest subject with the above-described conditions was a colored boy 16 years of age. He had a well-marked syphilis, also tuberculosis during life. Vascular changes are so great in the negro race that Dr. Osler informed me last year, while I was visiting the wards at Johns Hopkins University Hospital, that he had observed it so commonly in the negro that they had named one of the wards Corrigan's.

Syphilis and tuberculosis are boon companions, the mighty monarchs in the production of all classes of cardiac lesions arising so frequently in the negro. A marked feature in aortic regurgitation with the accompanying arteriosclerosis is the absolute absence of dropsical symptoms. I have seldom observed it. Angina pectoris is quite common. Sudden death is the rule. I note that one of our modern text-books on practice says that aortic regurgitation, considered as a whole, is the

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least dangerous of all valvular lesions, and one in which a favorable prognosis may be given. My experience with this lesion both in the whites and the blacks has made me skeptical as to prognosis. The majority of my patients with this condition have died suddenly. It is exceedingly fatal in the negro, death coming on suddenly before symptoms of failing compensation become manifest. Broadbent, Sampson, Cheadle, Sibson, in fact nearly all the authorities on diseases of the heart with the exception of Walsh, agree that aortic regurgitation is the most fatal of all cardiac lesions.

With reference to frequency aortic stenosis stands next to aortic regurgitation in the negro. I have frequently found them co-existing. The "hoo-chee" or steam tug murmur denoting stenosis and incompetence, I have often demonstrated to the entire satisfaction of my class and to physicians who were inclined to doubt this important auscultatory physical sign. The same conditions that operate in producing regurgitation at the aortic valves are found in stenosis. The integrity of the heart muscles is taxed to its utmost in these conditions.

The myocardium and endocardium, in fact the whole cardio-vascular system suffers the brunt of specific infection; in proportion to the degree of infection, the constitutional symptoms will be manifest. Text-books state that the murmur of mitral regurgitation is the one found to be most frequently musical. In the negro this is not correct. I have recorded 8 musical murmurs, 7 were at the aortic valves with unmistakable physical signs of aortic regurgitation, the murmur occurring with diastole and not with systole. In aortic regurgitation the high blood tension, the tumultuous action of the heart, the arteriosclerosis and the calcareous degeneration in the aorta are physical conditions conducive to musical murmurs. The venus hum in acute febrile conditions is much more frequent in the colored race than in the white.

Let us now touch upon mitral regurgitation. A close review of my cases shows that it does not occur as often as aortic regurgitation and aortic stenosis. Much has been written of late about the murmur of mitral incompetency. Two types have been well defined, especially so by Broadbent. One in which the mitral valve is incompetent from structural changes due to inflammatory action extending from the endocardium, the incurable mitral. The other due to dilatation of the ventricle, occurring in anemia and acute febrile disorders, the curable mitral. These two types are seen quite often at the outdoor clinic.

While we recognize that endocarditis following acute rheumatism is the most frequent cause of mitral regurgitation in the white, I have in the majority of cases failed, after the most careful examination, to elicit a history of a previous rheumatism in the negro. In those cases in which the symptoms and physical signs were well marked, where their previous health had been good, I have in the great majority of cases found an active syphilis operating; an acute syphilitic infection, if you please. My observations force me to the conclusion that acute syphilis has more to do with the production of mitral regurgitation in the colored race than inflammatory rheumatism.

Syphilis in the negro is quite often precocious. It is not an uncommon thing to see the classic stages merge rapidly one into the other, the chancre, the bubo, the eruption, the mucous patch in the throat, the periostitis, and the syphilitic fever existing simultaneously. This precocious syphilis is an index of active systemic infection and intoxication. The entire cardio-vascular system becomes overwhelmed, consequently syphilitic endocarditis, myocarditis in the production of mitral regurgitation. In this class of patients I have found the prognosis good. Remove the cause by eliminating rapidly the specific poison and your patient makes a fairly satisfactory recovery.

In that class of patients where symptoms of failing compensation are out of proportion to the physical signs, the prognosis is grave. A general anasarca comes on rapidly. The pericardium, the thorax, the peritoneum becomes filled with an enormous quantity of transudated serum. The patient literally drowns in a sea of self-generated fluids.

What is the pathologic significance in these cases? Quite often a history of a recent syphilis with an acute parenchymatous nephritis can be obtained, the cardiac it seems being secondary to the renal lesion. Tuberculosis will in the majority of cases be engrafted upon this specific history. I have often seen tuberculosis develop just as these dropsical symptoms were becoming manifest and run its course rapidly. The postmortem showed cavities in the lungs, marked degenerative changes in the endocardium and myocardium, and the kidney of diffuse parenchymatous nephritis. General anasarca, whether it be due to cardiac or renal lesions, is much more pronounced in the colored race than in the white.

Text-books are exhaustive in describing the physical signs and symptoms of mitral stenosis. Broadbent describes the three classic stages in detail. After a most careful and searching examination I have yet to find it in my clinical work in the negro. I have had it suggested to me that I had confused it with aortic regurgitation. The physical signs of aortic regurgitation with the accompanying arteriosclerosis are so well marked and defined in the negro that the most superficial observer could recognize it if he had any knowledge whatever. Pain in the chest, shortness of breath, palpitation of the heart, with the physical signs of diffuse apex beats are very often expressive symptoms of a previous aortitis, a chronic endocarditis and dilatation. The triple infection of gonorrhea, tuberculosis and syphilis make that class of negroes who attend the outdoor clinic ideal subjects for the study of valvular lesion of the heart, also pulmonary and renal lesions.

Now, with reference to the latter clause of my subject, a special reference to pericarditis, I have not the time in this paper to give it the thoughtful consideration it demands. I wish, however, to call your attention especially to pericarditis occurring in the negro during an attack of pneumonia. Pneumonia with him, as most of you know, is quite fatal. Given an acute attack of lobar pneumonia, a close physical examination will reveal an existing pericarditis. Its absence in the negro during an attack of pneumonia is the exception and not the rule. Purulent pericarditis is much more common than is generally supposed and I fear often goes unrecognized. I have observed it in the negro varying from the ages of 8 to 75 respectively.

A colored girl 8 years of age with rickets, with Hutchinson teeth, with saddle-shaped nose, and with a history of hereditary syphilis, came under my observation during the summer of 1899. A diagnosis of bronchitis and malarial fever had been made by another physician before I saw her. The apex beat could not be found. Upon auscultation the heart sounds were distant. Inspection showed marked bulging of the precordia. The

percussion note was absolutely flat over the whole apex area; dyspnea was marked. Temperature ranged from 102 to 104 F.; sweats and rigors as of a general sepsis were present. Aspiration revealed pus. She died the following day. No autopsy could be had.

A colored man 76 years of age was brought to my clinic during the spring of '98. He had suffered a severe attack of la grippe in the previous January. Physical signs and symptoms were characteristic of pericardial effusion. He had no fever. I aspirated with a small needle and withdrew pus. Symptoms of suffocation were so urgent that an operation was immediately decided upon. An incision was made and about a teacupful of pus evacuated. He died in a few hours. The relatives would not permit autopsy. These two cases are cited only as examples of purulent pericarditis in the negro which frequently come under my observation. I can not touch here upon adherent pericardium.

The following are the cardiac lesions in the negro in the order of their frequency: 1. Aortic regurgitation in the negro is the most frequent, the most dangerous of all valvular lesions; 2, aortic stenosis is next in frequency; 3, mitral regurgitation next; 4, mitral stenosis has not been diagnosed from physical signs and symptoms; 5, tuberculosis and syphilis act both as exciting and predisposing causes in the production of muscular and valvular lesions; 6, syphilitic history in mitral regurgitation is more frequently found than is a rheumatic history, and 7, the murmur of aortic regurgitation most frequently musical.

SOME POINTS IN THE TREATMENT OF PERICARDITIS.*

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In the beginning of my pathologic experience in hospital service, it was a surprise to me to find how frequently evidences of former pericarditis occurred. Later, as my clinical experience increased, I found how easy it was to overlook this disease, and how in letting it go unrecognized, inadvertently good treatment was frequently practiced by the absolute rest given the patient. The primary disease being under surveillance, the secondary was of necessity under conditions favorable for recovery. This experience suggests our only real available means of prophylaxis, viz., good care of the patient during the continuance of the primary disease, anticipating the fact that pericarditis is usually a secondary affection.

It then behooves us in the treatment of rheumatism, acute infectious fevers and septic processes, to keep ever in mind the possibility of pericarditis as an aftermath, and govern ourselves accordingly, by insisting upon absolute rest and quiet until this danger is passed. This is the limit of prophylaxis, except in rheumatic affections, when the liberal use of salicylates will do much toward rendering assistance in obviating this complication.

GENERAL TREATMENT.

Pericarditis should be regarded and so treated, as a serious disease, even if the symptoms are slight. Each case, it is true, must be treated upon its individual merits, but in a general way all must come under the absolute rule of enforced rest and quiet surroundings. The active business man, the busy housewife, the restless child, one and all, must be put under favorable conditions for the rest treatment.

I recognize how easy it is for us to lay down rules in such cases and how easily the patient can break them. Just recently one of my patients took upon himself, during the progress of convalescence, the responsibility of leaving his room to direct some simple household measure. An attack of dyspnea with marked dysphagia followed, throwing him back into bed and prolonging his stay in his room. It is as difficult to control an active business man as it is a child. The child we can confine to his bed for a prolonged period, but the man frequently takes the reins himself and suffers accordingly.

To reiterate enforced rest is necessary because it curbs the symptoms and places the patient under the most favorable conditions for speedy recovery.

DIET.

It is important to be especially careful of the diet of the patient. Milk is the most suitable diet—in fact, "It is," as said by Gibson, "absolutely indicated." Especially is this true where dyspnea is a feature. Hemmeter says: "I have noted several deaths in patients suffering from cardiac disease, shortly after a full meal, and a meal that was apparently enjoyed." I know in my own experience, while teaching clinical medicine, of such a case.

In giving milk it is better to follow the rule of giving a small quantity every two or three hours rather than load the stomach with a larger quantity less frequently. This is a simple matter, but very often ignored, and because of the gastric disturbances occurring in pericarditis, are prominently set forth after over-indulgence; it is possible to guard them as leading symptoms of disease of the stomach. Two cases, diagnosed gastritis, have come under my observation in consultation which were cases of pericarditis.

The irregular heart action was attributed to dyspepsia, whereas the passive congestion inducing gastric disturbance was due to the pericarditis. Careful dieting will overcome this feature, while at the same time it will promote the nutrition of the patient, which must be maintained.

SYSTEMIC TREATMENT.

The etiologic factor is to be considered in the systemic treatment of pericarditis. In cases due to rheumatism it is especially important to give the salicylates, as before stated under the head of prophylaxis. By so doing we are at least giving every assistance toward resolution, coming within the therapeutic possibilities of these drugs.

It is well to remember that most all cases of rheumatic pericarditis get well, if we will let them alone. Keep them at rest and carefully meet indications as they arise.

SYMPTOMATIC TREATMENT.

Our therapy is to be directed more especially toward giving the patient comfort, relieving him from the distress of pain, promoting sleep, and being watchful of the little things which contribute so much to success in internal medicine.

Pain is usually the most striking symptom calling for relief. Sometimes a blister over the pericardium will be sufficient, or if it continues, cold applications, cold cloths or an ice bag used as needed. The continued cold has proven of service to me, not only in relieving pain, but also in promoting resolution by seemingly ar-

* Read in a Symposium on Pericarditis at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section.

resting effusion. Hot applications may be suggested in these few cases, where cold is not tolerated. The hot water bag, when the dysphagia is not sufficient to require the patient to remain in a sitting posture, or the use of hot cloths, or dry heat in other forms as suggested by the needs of the case, will be of benefit.

Morphin may be given where these means fail, or for that matter it is good treatment to give it at once, if the symptoms are distressing. I have given it for several days at a time, guarding it with proper cardiac support.

The patient is usually restless and, if a man, it is with more or less difficulty that we curb this feature, unless we use the bromids in moderation. The bromids are best given in the form of bromid of soda. This should be given during the day, usually commencing about noon, again at 4 or 6 in the afternoon and at bedtime. I find this is very frequently sufficient to quiet the patient, and usually promotes sleep at night.

Sleep is of great importance and should be watched carefully, as insomnia in one of my cases of rheumatic origin became an alarming complication. Cerebral symptoms, with hallucinations, delusions and fear of death, were conspicuous. Under such circumstances trional is indicated; it will promote sleep, and does not interfere with the heart's action. I used in the case just mentioned the combination of trional with sulfonal, the former promotes sleep quickly, while the latter is slow in action, but its effects are prolonged.

The heart may need to be helped, especially if the action is labored or irregular. In this case strychnia may be given, or if further stimulation is necessary, digitalis with strophanthus. I have used digitalis and strophanthus in a diuretic menstruum, believing free diuresis will assist in relieving the laboring heart. It will also assist in relieving cardiac distress, to flush the bowels with a free saline purgative.

To properly care for the effusion is one of the prime essentials of treatment. Caution in procedure is one of the lessons which the young men should learn, for I believe meddlesome interference causes more trouble than completely ignoring the effusion as a factor in treatment. The tendency of the effusion is to be absorbed, hence we had better let it alone. Be watchful, but only interfere when the indications are pronounced.

If the effusion is moderate, unless septic, it will be absorbed, and even if large, the chances are that with cautious use of diuretics and purgatives, it will disappear. I have frequently noticed in cases of delayed absorption that if we give calomel in small doses repeated for a prolonged period, the effusion can be relieved. The same holds true in pleurisy.

If we have to deal with renal complications it is imperative that we be exceedingly cautious. Baginsky recommends the application of ichthyol ointment over the pericardium, to facilitate absorption. He says that it is especially serviceable in children.

The local use of leeches and blisters act well in some cases and turn the tide in delayed absorption, but as a rule they are of little service.

SURGICAL INTERFERENCE.

In this day of improved surgical technique paracentesis is more frequently resorted to, in order to relieve the burdened heart where effusion is extensive. The indications for interference are, according to Osler, "dyspnea, small, rapid pulse, dusky anxious countenance," and we will add, the physical signs of extensive effusion.

Gibson says: "The considerations which have to be borne in mind in connection with paracentesis cardii are the determination of suitable cases, the selection of the most favorable site for operation and the best method to be adopted." He recommends as the most suitable site the fifth intercostal space just inside the mammillary line.

The aspirator is recommended, but as these questions are largely surgical, I prefer to have the surgeon assume the responsibilities in such cases. Even surgeons, however, do not agree as to the best means of operation or the most favorable site.

Brentano[1] maintains that tapping is dangerous, and holds there is no accurately determined and fixed space where the pericardial sac can be tapped without risk. He says the heart is lifted upward and forward against the chest wall by the effusion. He resects the fifth costal cartilage, punctures the pericardium, then incises, etc. He irrigates, in purulent cases, with a hot normal salt solution. "Where previous cardiac disease has existed operative interference is contra-indicated," he says.

The surgical technique and mode of management of purulent cases, as before stated, are features wholly within the province of surgery and as such are receiving notable attention. Ogle and Allingham[2] prefer to enter the pericardial sac from below through the diaphragm, and give in detail the steps of the operation. Roberts, in 1899, compiled statistics of the cases treated by surgical means, and, considering the gravity of such cases, the report shows encouraging results.

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DISCUSSION FOLLOWING THE SYMPOSIUM ON PERICARDITIS.*

DR. DE LANCEY ROCHESTER, Buffalo, N. Y.—I think that if we carefully study this question that we will find that rheumatism, pneumonia and chronic disease of the kidneys are the chief factors in producing pericarditis, and if we try to analyze a little bit more carefully I believe that we will find that, in all those diseases, the active factor is a toxemia. It seems to me that the toxemia is the active factor rather than the infecting organism themselves and, therefore, in pneumonia, in rheumatism, etc., it strikes me that the toxemia should be given the first rank in the production of pericarditis. This toxemia causes, in most cases, a very powerful effect upon the muscular tissues, especially the myocardium. We know that in cases of pneumonia resulting in death that the fatal result when not due to the complications, or to the great involvement of the pulmonary structures, is due to the giving out of the heart, i. e., the myocardium; this explains why so many cases of pneumonia that have a pericarditis associated are fatal; the toxemia present attacks the heart muscle, which is already embarrassed by the pericardial involvement. In pericarditis a most important factor, so far as the prognosis is concerned, is the involvement of the myocardium.

In regard to the diagnosis of pericarditis, we know that in cases associated with pneumonia, ordinarily there is a very marked change in the ratio between the pulse and the respiration: in cases of pericarditis this change in this ratio is not maintained, the pulse increasing in frequency. A careful study of the precordium will indicate to us whether the myocardium or the pericardium is involved. The study of the pulse in its relation to the respirations is very important in studying pneumonia in connection with pericarditis. In rheumatism we have commonly the pulse decidedly frequent, soft and without any of the variations associated with respiration excepting the increase in frequency; but, in rheumatism, with the increase in temperature, one should look out for involvement of the feet, or other structure; it should also make us sus-

1. Progressive Med., March, 1900.
2. London Lancet, March, 1900.

* For the other papers in this Symposium, viz., those of Drs. Billings, McFarland and Preble, see issue of December 7.

picious of involvement of the heart structures. With these points regarding the pulse and the respirations I think we have a guide as to the association of the pericarditis. Either one of them being present should direct our attention to the cardiac region. In addition to that, instead of pain, substernal distress is much more pronounced, as a rule, than the pain. Then, too, the presence of the friction rub and the position of the apex beat, i. e., the position where we feel the apex beat, is of value.

In regard to the treatment of this condition there are two things that have been spoken of. If toxemia is to be recognized as the bottom of the cause of the pericarditis, then all our efforts should be directed toward the relief of that toxemia, and the avenues for relief here are the skin, bowels and kidneys: the lungs can not aid us. If we can stimulate the activity of the skin, bowels and kidneys we will aid in relieving the toxemia and overcoming the process of pericarditis. Sweating is very important and a valuable aid in keeping down the condition of toxemia and preventing pericarditis. In cases of pneumonia, the kidneys may be made to act very freely by the giving of large quantities of water and not by the administration of the diuretics, for the reason that the kidneys are, to a certain extent, inflamed and should not be stimulated by diuretics. Calomel is better than salts in keeping the bowels open; it also opens up the liver and so assists in relieving the toxemia.

So far as the local treatment of pericarditis is concerned, in the early stages of congestion I think we get better results from the local use of leeches. I think that leeches are thrown aside too much when they could be of great value. Again, we can use the wet or the dry cups. I have seen postmortem the local value of dry cupping. It should be done thoroughly and not only the skin raised up, but the skin and subcutaneous tissue should be well brought up into the cups until the skin is blue or purple and then you will get good results from the dry cupping.

DR. JAMES J. WALSH, New York City—We can accomplish very little by treatment. The story told of the Irish surgeon, Corrigan, of water-hammer-pulse fame, has its application today almost as much as in its own time. It is related that one of his assistants failed to notice the existence of a pericarditis in a patient and was profuse in his apologies for his negligence when Corrigan pointed it out. Corrigan said in his own dry way, "It's just as well that you didn't discover it; for, had you found it you surely would have treated it. Treatment usually does as much harm as good."

Even in our time, however, despite the advances in diagnosis, pericarditis is sure to be missed some time. Dr. Billings' cases are as good a proof of this as we would well have. It is no sign of negligence when in a complicated case a pericarditis fails of recognition. Mistakes of diagnosis, however, in this matter are mainly due to failure to suspect the presence of a pericarditis and so neglect to elicit the physical signs.

The important question for the diagnosis of pericarditis is the knowledge of conditions that should arouse suspicion of the presence of an inflammation of the pericardium. The most important index of pericarditis is the pain that usually occurs in the precordium. Another is the tenderness that is usually present whenever there is an effusion into the pericardium. If the rule is made of eliciting dulness in the heart region by reasonably deep percussion, there will usually be at least a suspicion aroused of the presence of pericarditis in all cases where it exists. Almost more important for the diagnosis of pericarditis than palpation of percussion is inspection. If patients are examined in a good light, distinct bulging of the rib interspaces will often be noticed. Besides, there is a wavy impulse communicated to the tissues of the precordium. Unfortunately, however, it is not the custom to examine patients' chests in a good strong light.

There is no pathognomonic sign of pericarditis, but the finding of an apex beat well within the outline of heart dulness is almost pathognomonic. Sometimes it is impossible to feel the heart impulse while the patient is lying on the back. Sometimes such patients are asked to sit up and lean far over. This is an extremely uncomfortable position, besides being a little dangerous if the pericardial effusion is large. It is much better to have the patient turn over into the prone position and then by drawing up the knees assume a limited genupectoral position. In this way palpation and percussion are possible and the heart is thrown forward against the chest wall and the impulse can be easily felt.

DR. H. B. SEARS, Beaver Dam, Wis.—I wish to relate an extreme case of adhesive pericarditis which occurred in the practice of Dr. F. Shimonek and myself. The patient was a member of one of the Wisconsin regiments engaged for some time in the Southern States. While South he suffered from malaria, also had an attack of acute inflammatory rheumatism. On returning to his home in Wisconsin, he began to suffer from dyspnea and impaired digestion. The heart's action became very feeble and irregular, with imperceptible apex beat, showing wave-like motion in intercostal spaces over entire precordia.

The liver gradually enlarged, reaching down to the umbilicus. Ascites, with edema of the lower extremities, supervened and tapping became necessary on account of the dyspnea and general discomforture. He was tapped at intervals of two weeks at first, gradually shortening to five or six days during the last year. The tappings extended through a period of five or six years, giving a total of 283 tappings and about 5000 pounds of fluid removed. A sudden chilling resulted in suppression of urine, uremic coma and death. Postmortem showed pericardium obliterated, myocarditis, with degenerative changes and thinning of heart walls. Heart was adherent to pericardium throughout, also to pleura, diaphragm and sternum, between which and the heart there was a calcareous deposit the size of a tea-plate. It seems a great wonder that the heart continued to act under such extreme bondage. And yet, the patient was about each day, enjoying his pipe, his record of tappings and his daily morning tonic of a half onion for breakfast.

DR. JAMES B. HERRICK, Chicago—Dr. Babcock has referred to the value of the pulsus paradoxus and I agree with him that it is not pathognomonic. Yet, in three cases, two going to autopsy, it seemed to me that this sign was of considerable value from a diagnostic standpoint.

In one of my cases of adherent pericardium there was paralysis of the vocal cord on the left side; this I regarded as due to the recurrent laryngeal nerve becoming involved in the adhesions. At the postmortem it was found that just where the nerve wound about the aorta, it was caught in firm adhesions, and the nerve gave both macroscopic and microscopic evidences of degeneration. There was also some pressure from an enlarged left auricle, for there was present a marked mitral stenosis. Cases of recurrent nerve paralysis due to pressure from an enlarged auricle have been noted by Ortner. Osler also makes reference to a case, and recently at the German Congress of Internal Medicine Kraus reported a case, though he differs as to the explanation of the production of the paralysis.

It is very important that we should examine cases of suspected pericardial effusion behind. The signs in the posterior left chest are often quite striking. Dulness behind, and bronchial breathing may clearly hint at the existence of a pericardial effusion with compression of the lung. So marked may the signs in the axillary and infrascapular regions be that we may be in doubt as to whether there is consolidation or fluid in the pleural cavity, and not a few mistakes have been made by puncturing the left axillary space and obtaining fluid, which at the postmortem was found to have come from the pericardium and not from the pleural cavity.

DR. CARL BECK, New York City—I am sorry that I was not present at the reading of all the papers on this subject. In reference to the differential diagnosis of adherent pericarditis, as spoken of by Dr. Babcock, I should like to call attention to the value of the fluoroscope, which would show the diaphragm in close contact with the pericardium during its excursions. I should like to ask Dr. Babcock as to the advisability, in cases of adherent pericarditis, of approaching the adhesions with the surgeon's knife. We are no longer afraid of the pericardium. I had great pleasure in seeing a boy, a few months ago, recover after opening and draining the pericardial cavity. Just as 25 years ago we were afraid to open the pleural cavity so now do we seem to be afraid to open the pericardial cavity

and, it may be, the work of the surgeon in the treatment of pericardial effusions and their consequences will be somewhat similar to what it has been in pleuritis.

DR. FRANK D. SMYTHE, Memphis, Tenn.—Pericarditis accompanies the pneumonia in almost every case in the negro; but this is not so in the white. In this connection I should like to bring your notice to some interesting cases under observation during the past year. Three cases were seen in consultation with Dr. Jones; two had an endocarditis, with mitral insufficiency, as a result of gonorrhea; the other was a case of pyocardium referred to me by a neighboring physician as a case of pleurisy with effusion which should be tapped. An examination revealed an enormously enlarged precordial dulness and I called Dr. Jones in consultation. He concurred with the diagnosis. We opened and found pus, withdrawing one-half a pint. This patient slowly improved. Another case was seen in my surgical service; it was one of pyocarditis due to rupture of an abscess of the liver into the pericardium. Shortly after the evacuation of the pus the patient died.

DR. ROBERT B. PREBLE, Chicago—I have of late been particularly interested in symptoms arising from recurrent laryngeal nerve because of their frequency in certain cases of aortic aneurysm; exactly similar symptoms are seen in pericarditis also. The left recurrent laryngeal nerve passes downwards into the thorax, and then curving around the arch of the aorta ascends to the larynx. This brings the nerve into close anatomical relation to the pericardium and symptoms of irritation or of paralysis result. This nerve sends branches, some to the heart—to the cardiac plexus—some to the esophagus, and some to the larynx. When this nerve is irritated, symptoms arising from any one or all of these branches appear. It is not possible to say why in any given case the symptoms are limited to one branch rather than distributed over all; thus we may have esophageal symptoms, laryngeal symptoms or cardiac symptoms like those of the angina pectoris in varying degrees. This explains the dysphagia occasionally seen, although in some cases direct pressure on the esophagus is the cause. I was interested in Dr. Jones' statements regarding the lesions of the aortic valve; they were at variance with the commonly accepted statements. Aortic lesions are generally stated to be less frequent than mitral lesions and I believe that this is true. One must distinguish two forms of aortic insufficiency, one the result of an endocarditis, such as complicates rheumatism, pneumonia, or sepsis; the other form of aortic insufficiency, more common, but less generally recognized, is met with either as a primary inflammation of the aortic valves or secondarily by extension from an inflammation beginning on the aorta, a primary aortitis. Syphilis is a common cause of such primary aortitis, and while syphilitic changes in the smaller arteries are usually delayed for years, the aorta and its valves are frequently affected early. Such syphilitis aortitis is characterized by just the symptoms dwelt upon by Dr. Jones, retrosternal pain, angina pectoris and sudden death, a group of symptoms which are not a part of aortic endocarditis such as occurs complicating the various septic diseases. I believe that the great frequency of syphilis in Dr. Jones' patients accounts fully for the differences between his and the general experience.

Influence of Food on the Re-establishing of the Movements of the Heart.—At the International Congress of Physiology held at Turin in September, Prevost and Batelli reported experiments which demonstrated that dogs could be revived more rapidly and effectually after asphyxiation from ligature of the trachea, if not fasting. Simple massage of the heart was sufficient in most cases to restore the heart action, without artificial respiration, when the dogs had been fed on mixed food, the carbohydrates predominating. Fats proved the least effective in this respect. The respiratory movements first appeared in all the tests after massage of the heart and artificial respiration. Much later the dilated pupil contracted and then in turn the knee-jerk, the corneal and nasal reflexes made their appearance, and lastly the inhibiting reflex of the superior laryngeal.

COMPLETE RECOVERY FROM DOUBLE NEURO-RETINITIS,

CLINICALLY RESEMBLING ALBUMINURIC RETINITIS, IN A CASE OF PROLONGED HEMATURIA WITH SYMPTOMS OF BRIGHT'S DISEASE.*

C. A. VEASEY, A.M., M.D.
PHILADELPHIA.

The notes of the following somewhat unusual case are deemed of sufficient interest to merit their isolated report.

Mrs. C. H. P., aged 35 years, was referred to me in May, 1899, by her physician, Dr. Hassell, for the examination of her eyes. The following history was obtained: Eight months previously she had suddenly discovered that she was passing bloody urine. This had occurred without any pain or premonition whatever, so that she was naturally much startled, and at once sought medical advice. From that time, however, until the time of my examination, urine had been passed upon but few occasions that it did not contain considerable blood. The exact amount of blood could not be accurately determined, but it was sufficient to make the urine a dark red, and quite thick. For several months the patient had been losing flesh (about 20 pounds altogether), and when I first saw her she was quite weak, very pale, suffered from attacks of vertigo, dyspnea, tinnitus aurium and intense constant headache. The lower lids were puffy, and at times there was a slight edema of the legs. She also complained of pain in the back, and physical examination showed moderate cardiac hypertrophy. Her family history was good and her health had been excellent until the appearance of the hematuria. There had been no convulsions, nausea or vomiting, except when the latter accompanied an occasional attack of migraine, of which there was a clear history.

Two weeks before coming to see me she had observed some diminution in the visual acuity, with increase in the vertigo and headache, and greater dyspnea. The vision of the right eye equaled 6/7.5; of the left 6/5. There were no external ocular changes. With the ophthalmoscope the right eye showed a clear media, an oval disc with its edges everywhere veiled, the veins full and slightly tortuous, especially in the immediate neighborhood of the disc above and below where they, as well as the arteries, were covered with exudate. There were five small feathery hemorrhages along the blood vessels in the neighborhood of the disc, and one on the surface of the disc near its outer border. In the macular region was noted the typical whitish stellate figure so often observed in nephritic lesions.

In the left eye practically similar conditions were found, perhaps a little more marked in the disc and its immediate neighborhood, and slightly less marked in the macular region. The pupil of each eye reacted perfectly, and the fields were slightly contracted both for form and color, but there were no scotomata.

Repeated examinations of the urine showed large quantities of blood corpuscles and albumin. No tube casts were found at any time, but it must be remembered that on account of the great admixture of blood with the urine their detection would have been difficult had they been present. In order to ascertain whether the blood had its origin from the bladder or from the ureters or kidneys, both ureters were catheterized

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

by Dr. Richard C. Norris, and the urine obtained from each contained blood, though the specimen from one side was somewhat clearer than that from the other. No tubercle bacilli could be found in any specimen.

The examination of the blood showed a uniform moderate reduction of the hemoglobin and red cells, together with a slight increase of the leucocytes—in other words, the conditions usually found in a mild secondary anemia, such as accompanies any wasting disease. The clinical conditions, therefore, were apparently those of an albuminuric retinitis in a patient whose general appearance was that of one suffering from some chronic nephritic lesion, whose urine contained large quantities of blood and albumin, and whose blood presented such changes as are usually found in those affected with some wasting disease.

Recovery was naturally very slow, but under a strict milk diet and the administration of Basham's mixture, and such other drugs as occasion demanded, clear urine was occasionally voided. These periods became more and more frequent, sometimes two or three days passing without any hematuria, the clear urine containing very little albumin, and the patient beginning to gain in weight. Simultaneously the ocular symptoms began to disappear. The small hemorrhages were first absorbed, the swelling of the nerve heads slowly subsided, and the stellate macular figures gradually diminished in intensity, until at the expiration of nine months from the time of my first examination the ophthalmoscope revealed no intra-ocular changes. The nerves were healthy in appearance and normal in color, the edges well defined, the vessels were unchanged and there were no traces of the minute hemorrhages previously noted, the macular regions giving absolutely no indications of the previously existing conditions. Vision in each eye equaled 6/6, and the fields were normal.

From a study of the symptoms and course of the affection the most plausible explanation seems to be that the patient at first had an acute inflammation of the kidneys, which ran into a chronic state, at the expiration of eight months producing the intra-ocular lesions previously described. What bearing the hematuria had upon the condition, whether it was a factor in the production of the nephritis or vice versa, or occurred merely as a coincidence, can only be surmised.

It certainly must be an extremely infrequent occurrence to have neuro-retinal lesions of the character and severity of those above described clear up so thoroughly that not a trace of the former condition can be found. In a paper before the American Ophthalmological Society in 1886, Bull analyzes 103 cases and states that at the time visual improvement was taking place in 32 cases while under constitutional treatment, the retinal changes became perceptibly less marked; but he had never in any case seen any signs of absorption in the peculiar glistening stellate exudation at the macula, and that he did not remember ever to have seen a case in which the retinal exudation was entirely absorbed. In this analysis all cases of albuminuric retinitis due to pregnancy or scarlet fever were excluded, as the retinal lesions in this class of cases had been seen frequently to disappear entirely. On the other hand Leber refers to the absorption of the exudation which takes place in those cases of retinal disease which are cured, or brought to a standstill; and Gowers, in his well-known work on "Medical Ophthalmoscopy," states that occasionally the retrogression may proceed until the retinal changes almost or quite disappear, and that this is especially the case when the affection comes on in the course of the chronic kidney disease which results from an acute attack, in which considerable improvement in the retinal affection is often obtained. It seems that the latter remarks apply particularly well in explanation of the somewhat unusual case here reported.

DISCUSSION.

DR. WILLIAM H. WILDER, Chicago—This subject is an extremely interesting one because the general practitioner always wants to know of what prognostic significance this optic sign of albuminuric retinitis is. I think it is pretty generally accepted that when it does appear it almost signs the death warrant of the patient. There are very few cases of typical albuminuric retinitis that are not of grave prognosis, and most of them terminate fatally in about two years. I do not recall that I have ever seen a case run beyond that. I have seen a case, however, that occurred in a patient that I watched very closely where the retinal lesion improved decidedly before the termination of the case in death. The vision had fallen to 5/200 with marked stellate appearances around the macula and with hemorrhages, but the vision improved to 20/40 and remained there until death, with a corresponding diminution of the white plaques and hemorrhages. I have seen a similar appearance in a case of diabetic retinitis. In Dr. Veasey's case I should expect grave developments to occur within a year or so.

DR. HIRAM WOODS, Baltimore—My attention was called a year ago to the paper of Marcus Gunn by Dr. de Schweinitz, whom I had asked to see a small boy 9 years old that consulted me because of loss of vision in the right eye. There was marked venous engorgement and small hemorrhages with, starting out from the fovea, a number of white streaks. The case had no albuminuria and eventually got well, except that a small scotoma in the inferior temporal field remained. Gunn described several cases of this kind and believed them due to a certain pegging down of the retina near the fovea, and that the white streaks were exudative, but not of a degenerative character found in albuminuric cases.

DR. E. C. ELLETT, Memphis—I would like to mention briefly a case of what might be almost termed recovery from albuminuric retinitis. The patient was a young woman whose Bright's disease lasted over a period of fifteen years. Within two or three years of the probable onset of this she developed a typical albuminuric retinitis. There was no ocular treatment, but under the care of her attendant the condition became very much better and the ocular condition passed into what might be called atrophy of the retina, that is, there was a very marked thinning of the retinal vessels, almost an obliteration, but the condition of the nerve was good and the central vision became very good, although the field was contracted. A case almost identical with this, following an albuminuric retinitis of pregnancy, was seen in Dr. Jackson's service at the Will's Eye Hospital about ten years ago, when I was resident surgeon there. The subsequent history of my case was that the patient died, but without any recrudescence of the eye symptoms.

DR. C. A. VEASEY, Philadelphia—The case referred to by Dr. Woods could hardly be mistaken for this condition, because in that class of cases the swelling is in the character of lines more than in blotches and there is not the typical stellate figure nor albumin in the urine. I can not say that the condition was due to kidney disease, as nothing short of an autopsy will show that; but I believe it was a case beginning as an acute nephritis, becoming chronic and later setting up those retinal conditions which have been described by Leber and others.

Soluble Bougies for Treating the Lachrymal Duct.—Steinitz uses a 1 to 5 per cent. protargol, or a 1 per cent. colloid silver, soluble bougie in the treatment of rebellious cases of suppuration of the lachrymal duct. He has been very much pleased with the result in six cases rapidly cured by this means, as he describes in the *Klin. Monatsblaetter f. Augenheilkunde*, 1900, p. 343.

THE VALUE OF EXCISION OF THE SUPERIOR CERVICAL SYMPATHETIC GANGLION IN GLAUCOMA.*

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CHICAGO.

The history and modus operandi of this operation, as well as its intended and desired range of purpose, are all familiar to you, hence these points do not merit repetition here.

In order to obtain as complete American statistics as possible, the writer has sent out several hundred question blanks to men of repute and experience. However, the returns are a trifle meager, yet of such great importance on account of their uniformity, that a fair and just estimate may be had as to the real merits of the operation in question. There have been only 14 operations performed in America for glaucoma; in addition, several have been done for optic atrophy and Basedow's disease. If there are any more operations for glaucoma the writer has failed to get the report, though every effort was made to obtain same.

First, let us take a brief review of the physiology of the superior cervical sympathetic ganglion and nerve with reference to the eye. It supplies: 1, the iris with dilating fibers; 2, the blood vessels of the eye with vasomotor fibers; 3, the unstriated muscle of Tenon's capsule; 4, the trophic and nutrition fibers of the globe proper; 5, the lymphatic vessels and channels are under the immediate control of the sympathetic fibers.

Any constant or interrupted irritation of this ganglion or its fibers gives rise to: 1, vaso-constriction; 2, circumbulbar muscle contraction; 3, an increase in the elements of the aqueous humor, hence an active interference with the intra-ocular interchange of fluids; 4, a dilatation of the iris, therefore an interference of the filtration angle; 5, finally, an increased intra-ocular tension.

Now, what takes place when this ganglion is removed? 1, contraction of the iris; 2, relaxation of the circumbulbar muscle; 3, vascular dilatation; 4, lower intra-ocular tension; 5, a decrease in the elements constituting the aqueous.

These points have all been proven by experiment many a time, hence beyond any question of doubt.

If these facts hold true for a normal eye, then the same results obtained, if possible, in any form of glaucoma ought to be productive of good; and, what is more, the extirpation of this ganglion, if the foregoing facts are absolutely true, is in certain forms of glaucoma the only permissible operation of to-day. This, for the reason that it prevents enucleation of the globe in glaucoma absolutum and possibly hemorrhagicum.

In every instance of glaucoma the extirpation of this ganglion has achieved some good, though the results have been more or less permanent. Yet the good of this operation has not impressed itself upon operators at large.

A certain element of doubt always attends the removal of this ganglion. To absolutely recognize the ganglion or its fibers is often a matter of great difficulty. The ganglion may vary greatly as to position, size, shape, color and texture; and, unless one is familiar with its so-called eccentricities he is not absolutely sure of having removed it. However, if you apply the galvanic or faradic current and watch its action upon the iris, which is well known, you can not go astray. This one difficulty may have been the reason for a failure in some cases. No less an authority than Byron Robinson says: "The sympathetic ganglia of the neck are very perplexing, to say the least. The only way to become familiar with these ganglia is to hunt for them in the anatomical room."

The superior cervical sympathetic ganglion, as well as the middle, has been removed for epilepsy, Basedow's disease, optic atrophy and trifacial neuralgia. These operations have been mostly performed by foreign surgeons. Yet, the experience and the careful study of the data will go to show that the sphere of this operation is limited to glaucoma and Basedow's disease. It is of doubtful utility in trifacial neuralgia, even if reported by Joubalay. The experience of such men as Angelucci, Coover, Black, Burghard, Ball, Dodd, Williams, Jonnesco, Demicheri, are the warrant for the foregoing statement.

The true etiology and pathology of any variety of glaucoma can never be established unless the sympathetic cervical ganglion and the lenticular ganglion are taken into consideration. Nor can any cure for glaucoma be advanced in the future unless these ganglia are reckoned with. Perhaps another Sterling will unravel the problems as to the pathology of these organs.

Before giving an analytical review of the statistics the writer has gathered, he wishes to offer the following as the probable cause for the failure of sympathetectomy in certain forms of glaucoma. This cause he thinks is in the overlooking of the lenticular ganglion. Judging from its makeup, position and function, it must play an important part whenever the sympathetic nerves of the eye are in question. This ganglion supplies all the nerves of the intrinsic eye muscles—both motor, sympathetic and sensory. It receives sympathetic filaments directly from the superior sympathetic ganglion as well as crossed branches of the sympathetic fibers which accompany the branches of the fifth nerve to this ganglion. The excision of the cervical ganglion then leaves intact the sympathetic fibers coming with the fifth nerve to the ciliary ganglion. The questions which the writer puts to himself and which form the basis of experiments now being carried on, are:

1. What is the effect on the eye when you stimulate the lenticular ganglion after the removal of the superior cervical sympathetic?
2. What is the effect when both ganglia are removed?
3. What is the effect upon the eye after the removal of the superior cervical sympathetic ganglion, section of the third and fifth nerves intra-cranially and the stimulation of the lenticular ganglion?

If these experiments yield any positive data, then the rationale of the operation in question will be strengthened and we can arrive at a more logical conclusion as to its real value.

In studying the statistics, only the salient questions will be taken up. In answer to the question, "For what forms of glaucoma did you operate?" the following was received: Chronic simple glaucoma, 9; glaucoma absolutum, 3; sub-acute glaucoma, 1; hemorrhagic glaucoma, 1; total, 14.

Of these operations two were bilateral, thus leaving twelve individual cases. Briefly, now, as to the success of these twelve individual cases as given by the respec-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

tive operators we have: Success, 6; improvement (ending in failure), 3; failures, 3.

This certainly is a good showing, especially when two failures are not to be considered. For, in one case the diagnosis lay between optic atrophy and glaucoma—balance in favor of optic atrophy. In the other, such atrophic changes had already taken place that the case was a desperate one from the start, though a temporary improvement followed the operation. Such is the opinion of the respective operators in each of the cases just mentioned. Furthermore, the record of success is good in that it prevented enucleation in three cases of glaucoma absolutum. Thus, deducting the two cases above detailed as failures, we have six successes and four failures in a series of ten cases—counting the double excision as a single operation.

For the next question of importance, "For which forms of glaucoma do you advocate the operation?" the reply was: 1, hemorrhagic glaucoma; 2, glaucoma simplex; 3, glaucoma absolutum.

In the hemorrhagic and absolute forms of glaucoma the operation prevented enucleation and removed pain, hence a justifiable procedure. In the chronic forms of glaucoma it was done after an iridectomy had failed to relieve the downward tendency of the glaucoma. Yet, the greatest percentage of failures comes from this class of glaucoma. In a few cases only did the extirpation of the ganglia in chronic glaucoma suffice, as in the majority a subsequent iridectomy had to be made. Therefore, as far as this variety of glaucoma is concerned, it must be held *sub judice*.

In considering the immediate effects of the operation, i. e., within 24 to 48 hours, the report gave the following: 1, marked reduction of tension in each individual case; 2, immediate contraction of pupil; 3, immediate relief from pain if same was present prior to operation.

On these three points there was no variance. The only condition which varied was the improvement of vision. In a few the acuity and field of vision was greatly improved, but the greater majority retained about the same amount of vision as prior to the operation—excepting the recorded failures, in which, though, there was a temporary gain.

In only one case was the reduction of tension delayed longer than 48 hours. Then in one case a previous double iridectomy prevented pupillary manifestations, i. e., maximum contraction. However, there is a great uniformity of results, as can be noted from the remarks made.

The next important question was: "Can it replace iridectomy or sclerotomy?" To this all gave a very guarded answer, which is perfectly correct. For the enthusiastic feature of the operation has passed away and bare facts are at hand. Yet each operator looked upon the operation as worth trying when other procedures failed.

As to the acuity of vision, the results again are similar. In Ball's case, e. g., the vision rose from light perception to counting of fingers at seven feet in 32 days; in the other from light perception to fingers at four feet within three months; in the third from nil to fingers at four inches, the time not given, however.

Coover, in his case of glaucoma simplex, reports a decided gain in vision lasting four months, with a subsequent failure. He admits, however, that his case was a desperate one from the beginning.

Mullen, of Houston, Texas, reports an increase in the field of vision in his case of non-inflammatory glaucoma, though finally it receded to a point the same as before the operation.

Melville Black, of Denver, likewise reports a decided increase of vision in his case of subacute glaucoma.

In Gradle's case of chronic glaucoma, in which a double iridectomy had been made, though it failed to check the downward progress in one eye, the excision of the ganglion retained the same field of vision for at least fifteen months, and this eye is apparently better than the other now.

Huizinga's case was not a clear-cut glaucoma, but rather an optic atrophy, hence his negative result can not be considered. This is what he himself reports. In the writer's two cases of chronic glaucoma the acuity of vision was not improved, but the same amount was retained as was present prior to the operation; the time elapsed is about two and one-half years for each case.

The excision of the ganglion twice prevented an enucleation in glaucoma absolutum for the writer, and Ball also reports a case where it obviated an enucleation. So we can see from these three cases that the operation has a sound basis for this form.

In none of the reported cases was any after-treatment, i. e., medicinal, employed, so the real value of the operation is brought to light. However, it seems more rational and more in accordance with the views of operators to follow up the operation with myotics for at least a certain length of time, if not continually.

There is no question but that the amount of success depends in a certain measure upon the stage of the disease. If there is no central vision or even light perception, not much in the way of visual improvement can be hoped for, though the other existing symptoms are surely allayed. As to the untoward effects following the excision, none have been reported. Yet there are some, such as flushing of the face on the same side, dysphagia and slight ptosis. These after-effects, however, are only temporary. With this rather hasty review of the subject as it stands before you, permit the writer to give a summing up of the most pertinent facts:

1. Sympathetectomy is a justifiable operation.
2. Though the excised ganglion shows changes, yet the true relationship between it and glaucoma is an open question.
3. It is not the *sine qua non*, but a most valuable adjunctive procedure.
4. It is always indicated when an iridectomy or sclerotomy in any form of glaucoma has failed.
5. Iridectomy is still the classical treatment for certain forms of glaucoma, i. e., chronic and acute.
6. It is the preferable procedure in glaucoma absolutum and hemorrhagicum.
7. Operate only on one side—affected side.
8. Employ the suitable medicinal treatment after the operation.
9. Do not extirpate the ganglion in acute inflammatory forms of glaucoma.
10. There probably is a close connection between the ciliary, superior cervical sympathetic and glaucoma. What it is, experiments will show.
11. Extirpation of the ganglion is indicated whenever there is increased tension not controlled by any other measure.
12. The results depend in a great measure upon the condition of the case.
13. Primary extirpation may have to be followed by an iridectomy.
14. It is indicated in those cases of glaucoma which already have extremely poor vision and where any interference with the eye proper might result unfavorably.

15. It is to be considered at all times when other operative measures are refused, irrespective of the form of glaucoma.

16. The excision of this ganglion has varying effects upon the fundus oculi—none detrimental, however.

The writer having been a very great enthusiast concerning the value and future of sympathetectomy in nearly all forms of glaucoma, has, after three years of close study, experiment and following up his cases, been compelled to give the foregoing conclusions, which certainly are very conservative. To think that it will ever entirely supplant other operative procedures in glaucoma is a question and could not receive the support of him who is at all an acute observer.

The following is the list of operators and the number of their cases irrespective as to the form of glaucoma: Ball of St. Louis, 3; Coover of Denver, 1; Black of Denver, 1; Huizinga of Chicago, 1; Gradle of Chicago, 1; Mullen of Houston, Texas, 1; Suker of Chicago, 4. The double operations are counted as single cases.

In conclusion, the writer wishes to express his gratitude to Drs. Ball of St. Louis, Coover and Black of Denver, Mullen of Houston, Texas, Huizinga and Gradle of Chicago, whose cases have formed the basis of this paper.

100 State Street.

DISCUSSION.

DR. CASEY WOOD, Chicago—It is only fair for me to say at the outset that I have not had a case myself in which the superior cervical ganglion has been removed; I was merely called in consultation in a case with Dr. Huizinga. Those of us who approach this matter in a conservative fashion have the right to ask certain questions. First, is the operation a dangerous one? If so we must not compare it with the simpler operation of iridectomy and give it the same importance and prominence. If there is any procedure or remedy in acute or subacute glaucomas I believe it is an iridectomy done in the sclera with removal of a wide segment of iris. I do not think we should be justified in resorting to an operation of a kind which can only be done by an expert surgeon, requiring special skill where a simpler one, devoid of risk, will probably be as effective. As to the chronic form of glaucoma I am one of those who think that many of the cases are not pathologically kin to acute glaucoma. I believe that we often have to deal with an optic nerve trophy associated with physiologic cupping. Of course there are two camps fighting each other on this subject, but I am certain the case I saw with Dr. Huizinga is one of that kind, and that, consequently, one had no right to expect a brilliant result from the operation and, as a matter of fact, we did not get it.

DR. MELVILLE BLACK, Denver—I should be inclined to say that the operation of sympathectomy is not a difficult one in the hands of a skilful surgeon or even in the hands of an oculist who has seen it done a few times. There is no special danger connected with the operation if the operator knows his anatomy. My case was one of subacute glaucoma in a negro, 35 years of age. The superior and middle cervical ganglia were removed. The man was rendered myopic by the operation temporarily. The pupil contracted down to the size of a pin's head and the symptoms absolutely subsided at once. Up to the present there has been no return of the symptoms of glaucoma, and that eye is equally as good as the other. The operation was done December 24, 1900, and the time has not been sufficient to determine what its ultimate results will be; the one case does not make me think it is going to take the place of iridectomy. Still, if I had glaucoma I should prefer to first have the ganglion removed to having an iridectomy done. I think the operation only has its place where eserin will reduce the tension and improve the vision.

DR. WILLIAM H. WILDER, Chicago—I am scarcely prepared to give a report as yet on the case which is under observation in my service at the infirmary. During the last year my colleagues and myself have had three cases, one done in the service of Dr. Fisher, one in that of Dr. Woodruff, and the one I have recently done. The results were very gratifying in the case of Dr. Woodruff. On the first examination the field was slightly improved, not only for white but for colors. In my own case the vision has improved from 20/70 to 20/50; the tension is normal and the pupil, which returned to normal size, responds readily to light. It is difficult to pass judgment on an operation the statistics of which are so meager, but possibly there is a field for this operation. I can hardly agree with Dr. Black that it is a simple operation. It may be simple on the cadaver, but almost a nightmare confronts one when one gets to cutting back of the large vessels in the neck. I was glad to have Dr. Schaeffer assume the responsibility of operating in my case. The operation appeared simple enough in his hands, but I should not like to attempt it without going over the topographical anatomy quite frequently.

DR. C. F. CLARK, Columbus—What symptoms in other organs have developed after this operation?

DR. SUKER, in reply—We have a flushing of the face on the side operated on and there is a possibility of having an enophthalmos which is persistent.

REPORT OF A CASE OF A PECULIAR FORM OF CARCINOMA OF THE SKIN OF SLOW GROWTH.*

WILLIAM FRICK, A.M., M.D.

Lecturer on Clinical Dermatology, Kansas City Medical College, and to Kansas City Training School for Nurses; Dermatologist to Kansas City, Fort Scott and Memphis R.R.

KANSAS CITY, MO.

We can conceive of several conditions under which a carcinomatous tumor of the skin may have a history of long duration. A growth may be innocent in its character in the early history of its development, and change after many years of duration to a carcinomatous type. A known epithelioma may remain stationary, or nearly so, for years, apparently neither increasing nor decreasing, after which it increases more rapidly; this will give a long history to the tumor. Then again, carcinomatous cells may be encapsulated, according to some observers, which may prevent their extension for many years. The case we have to report had a duration of 35 years, and did not present the usual appearance of a carcinoma either clinically or microscopically. The patient was seen by a large number of medical men, some of whom were skilled diagnosticians, and yet no one hazarded a diagnosis of carcinoma from the clinical history and appearance. Hence, I think that it is of sufficient importance to warrant its report.

I first saw this patient in January, 1896, and have seen him at various intervals since that time. The only difference in appearance in the five years is in an extension of the growth. This extension has been extremely slow, but perhaps not quite so slow in the last year as in the previous four. The patient is now 54 years old, and has been from his early manhood a periodical drinker. His sprees last from two or three days to as many weeks; while the periods free from drink are from two or three weeks to a year. He seems quite well preserved for a man with such habits. During his sprees the tumor fills with blood to a greater extent than usual, and is followed with more or less breaking down of the tumor tissue. As his wife expresses it: "The sore always looks worse when he is on a spree."

Family History.—Father died of dysentery at 77 years of age, after three weeks of illness. Mother died

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

of consumption when 35 years of age. Her disease was contracted 8 or 10 years before death. He had 4 brothers, 3 of whom are living and well; 1 was scrofulous and died in childhood. He had 2 sisters, one of whom is living and healthy; 1 died of quick consumption when 15 years old, after an illness of one year; but only one week in bed. No other relatives had consumption.

History of the Tumor.—About 35 years ago the patient first observed it on the back, between the shoulder blades and just to the right of the spine. It was then about the size of an ordinary pea; elevated above the surrounding skin, and nearly the color of a ripe strawberry. It grew gradually, but very slowly, and did not ulcerate or break the epidermal covering for the first fifteen years of its existence. At that time the growth was no larger than a five-cent piece. The skin was at that time broken, leaving an elevated raw looking surface, which had very much the appearance of spurious granulation tissue, and it bled quite freely. The growth continued to increase very slowly. There seemed to be a constant attempt on the part of nature to heal, which resulted in a partial covering of epithelium in very thin

FIGURE 1.

layers; this was over only part of the growth at a time. Beneath this thin covering could be plainly seen very fine blood-vessels, branching out in various directions. The entire growth was full of blood, and the slightest touch was sufficient to cause bleeding. The tissue making up the mass was quite friable and could be easily scraped out. There was no subjective sensation in the growth. The history given me by the patient and his wife, as well as my observation of it for the last five years, would indicate that the character of the growth has not changed since ulcerative processes were begun at least.

The shape of the tumor was irregularly oval and measured 2½ by 3 inches in diameter. It was elevated about ⅛ inch above the surrounding skin, and its edges terminated abruptly. It was quite movable with the skin, free from induration, solitary and painless. About a third of it had no epidermal covering, but looked more like large spurious granulation tissue than anything else. Another third had a very thin covering of epithelium with the tiny blood-vessels quite apparent just beneath, while the remaining portion had a thicker epithelial covering with no blood-vessels visible, but a thin skin resembling the normal, with the pathologic tissue beneath. These different portions can be seen in the photograph upon close inspection.

A small piece was excised from the lower edge of the growth for microscopic examination. This was sent for examination to Dr. Frank J. Hall, who has charge of the

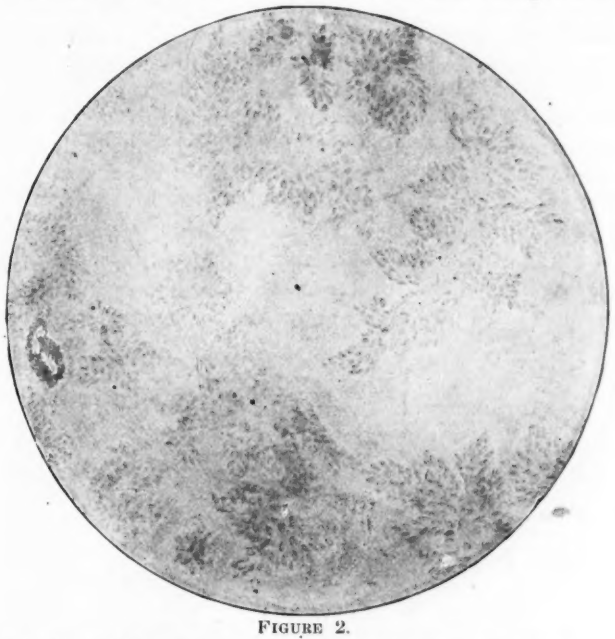


FIGURE 2.

pathologic laboratory of the Kansas City Medical College. To him is due the credit of ascertaining the histology of the growth.

The excised portion was hardened in 4 per cent. formalin and embedded in celloidin. It was cut thirty micra thick, stained with Delafield's hematoxylin, counter-stained with eosin, and mounted.

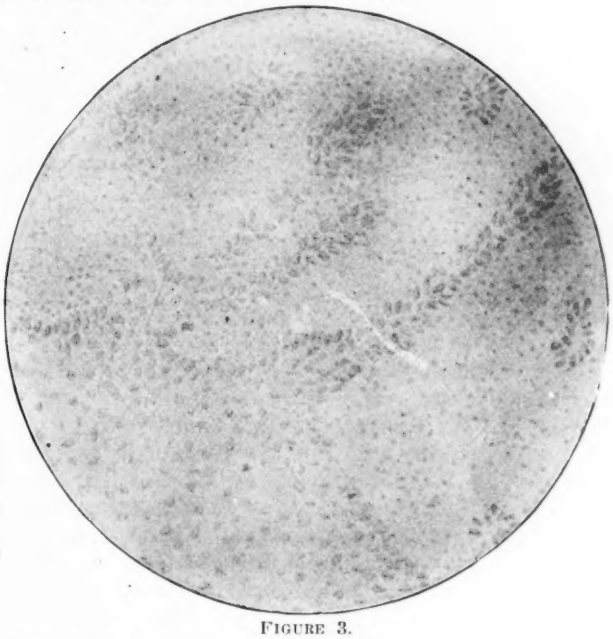
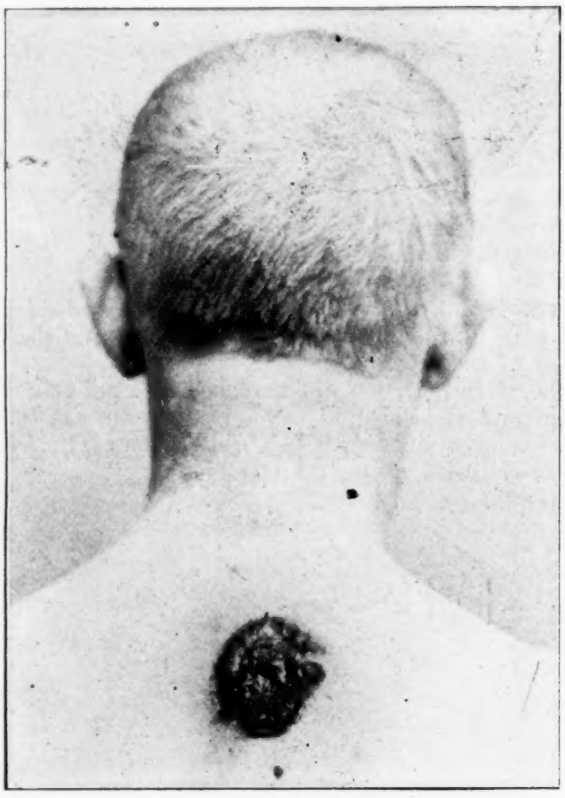


FIGURE 3.

Microscopic Appearances.—With a magnifying power of fifty diameters, the tissue is seen to be made up of closely assembled, irregularly shaped masses of deep stained cells, separated by a poorly nucleated but richly vascular stroma. The cells composing the masses were short spindles, with a very scanty protoplasm and homogeneously staining nuclei. The nucleolus was not of the

vesicular character, so prominent in the epithelial cells of typical carcinoma. No nucleolus was observable in any of the cells examined. All in all these cells resembled more closely the cells of the first or cylindrical cell layer of the stratum Malpighii. Some of these cell masses show a peculiar space in their centers filled with some amorphous matter which retains the hematoxylon. These spaces remind one most strongly of a lumen rather than areas of necrosis, since the cells surrounding these spaces are in a perfect state of preservation. The masses of cells containing these central spaces occupy the deepest portion of the tumor. In no instance is there any evidence of even an attempt at cornification or other degenerative process to be found. All the cells in these masses are practically of the same size, and have their nuclei approximating a vertical position to the peripheral line. The basement membrane, if there be such, surrounding these cellular areas, is extremely poorly developed. An examination of the specimen, including



Photograph taken in January, 1896.

the skin surface at the edge of the tumor, reveals some interesting points. The surface epithelium is well developed, the papillæ are very long and seem to have a tendency to assume a position parallel to the surface of the epithelium. This is shown by the fact that in sections cut vertically a great many papillæ are cut transversely, the interpapillary epithelium being reduced to two or three rows of cylindrical cells. In a few places the interpapillary epithelium was seen to project downward in the form of a very slender column, and to communicate with the cell masses constituting the tumor. Hence we conclude that this tumor has its origin in the epidermis and that furthermore the cylindrical cells alone proliferate. This feature sharply separates this tumor from the ordinary cutaneous epithelioma, since in the latter we find all the layers of the epidermis represented. It is also noticed that sweat glands projecting among the epithelial masses showed no signs of participating in the tumor formation. Sebaceous glands were not observed. Hair follicles were atrophied. We believe that this case is one quite similar to, if not identical with, those described by Krompecher,[1] as "Carcinoma Epitheliale adinoides." It is probably the same growth, described by Brooke,[2] as "epithelioma adinoides cysticum," and by Fordyce,[3] as "multiple benign cystic epithelioma." In all these, except Krompecher's paper, the finer structures at least are not sufficiently described to be sure of the identity of this case with theirs.

One photograph was taken in January, 1896, the other January, 1901.

The three figures illustrating the arrangement of the cells were drawn for me by Dr. W. H. Trimble, associate in pathology in the Kansas City Medical College. Fig. 1 shows the appearance of the cell arrangement at the edge of the tumor under low power. Fig. 2 shows a portion of the same as Fig. 1, under high magnification. Fig. 3 shows a field nearer the center of the tumor.

Treatment.—The patient refused to have the growth excised, and therefore an arsenical paste was used to destroy it. We used the following paste:

Photograph taken in January, 1901.

℞. Ac. arsenious ..... gr. vi
Hydrarg. sulphurat rub. ..... ʒii
Cocain hydrochlor. ..... gr. i
Ung. rosæ ..... ʒss
Ft. paste.

This was spread on cloth and applied to the growth each day for four days in succession, after which the destroyed tissue was given time to slough. There was still a considerable part of the growth not destroyed and we used a pyrogallic acid ointment next (ʒss to Ung. Rosae ʒi). This gave more pain than the paste, and did not destroy the pathologic tissue as well, so after a few days we returned to the former treatment. This was used four successive days again, and then allowed to slough. There was still some of the growth to be seen, and another four applications were made, after

1. Ziegler's Beiträge, Jan. 28, 1900.
2. British Jour. Dermatol., vol. iv, p. 269.
3. N. Y. Med. Jour., June 9, 1900, p. 889.

which we seemed to have a clean ulcer ready to heal. Healing took place rapidly. The surface formerly covered by the tumor is now covered by soft cicatricial tissue. It will be watched with a great deal of interest for some time to see if the growth will recur.

301 Rialto Building.

DISCUSSION.

DR. M. L. HEIDINGSFELD, Cincinnati—Judging from the appearance of the drawings, and they bear evidence of having been carefully and well executed, I am impressed that this case in question is not a true epithelioma. There is some down growth of the epithelium, but a good wall of connective tissue separates it from the underlying structures; the lowest layer of columnar cells are well preserved, and perfectly arranged; there is no marked hypertrophy on the part of the sweat and sebaceous glands. In fact, we have none of the characteristic ear-marks of an epithelioma, and inasmuch as nearly all the essential features of this form of new-growth are lacking, I would deem it proper to be somewhat guarded as to whether this case can be classed with the epitheliomas.

DR. H. G. ANTHONY, Chicago—Clinically, this might be classed as blastomycetic dermatitis. I do not wish to be understood as saying that this is a case of that kind; the histological structure does not quite suggest that, but what I say is simply this: That where a case clinically suggests blastomycosis, mention should be made of the fact that the tumor has been examined for blastomyces.

DR. WILLIAM FRICK, Kansas City, in closing—Of course, being a case of mine, I am very much interested in it, and I reported it because it was not an ordinary picture of epithelioma. In fact, I do not wish to call it an epithelioma; we called it a carcinoma of a peculiar type, a proliferation of the lower layer of these cells. It certainly is not like an ordinary epithelioma.

RHINOSCLEROMA.*

CHARLES W. ALLEN, M.D.

Professor of Dermatology at the New York Post-Graduate Medical School, etc.

NEW YORK CITY.

My intention is merely to report two cases of rhinoscleroma which have come under by observation, because of the great rarity of the affection in this country, and also because of an unusual clinical course pursued by the first one.

Mrs. L. M., 64 years of age, was born in Hungary. She was first seen in 1889, when the diagnosis of rhinoscleroma was made from the clinical appearances and history. An attempt by Dr. Lustgarten to confirm the writer's opinion through a bacteriologic culture failed. No tissue was allowed to be excised for microscopic examination. At this time an operation was advised as the only means of arresting the progress of the disease. The incurability by drug medication was pointed out, as well as the probability that the growth would soon reach an inoperable stage. The patient, however, would not entertain the suggestion of an operation. The appearances presented at that time are shown in Fig. 1 of the accompanying illustrations. The history given was, that for sixteen years a nodule, the size of a small bean, had been present in the upper lip midway between the vermilion border and the nasal orifice. There was never any pain, and no treatment had been instituted.

Two years before the patient came under my observation the nodule began to increase in size, especially toward the nose, and by a gradual growth invaded the cavity of the left nostril, pushing up the ala. The growth occupied the whole thickness of the lip and extended from just above the vermilion border to well within both nostrils. Beyond the portion which is raised above the *niveau,* there is, as it were, a subdermic, firm plate which can be distinctly felt passing to the right and left. Toward the left, it extended to the labio-nasal fold and on the right, not quite so far. The complexion is sallow, often yellowish, and the general health is not always good; she suffered with frequent headaches and indigestion. The appearances at this time are shown in this photograph taken for me by Dr. Piffard, I think in 1890. I reported the case and showed this photograph (Fig. 1) at the New York Dermatological Society in 1892. Since the patient's history has been so well given by Dr. Jackson,[1] I will not consume more time in dwelling upon it. I show

Fig. 1.—Rhinoscleroma, first seen in December, 1889.

you now this excellent colored drawing which accompanied his article (Fig. 2), illustrating the changes which had occurred up to this time. Dr. Politzer saw the case in 1891. Since this time the patient has been at various times under my care and about three years ago I had the picture made which I now show (Fig. 3). The period between these two last pictures is about five years.

During the past three years the progress has been more rapid. On Dec. 9, 1899, I was called to see her, and found that the growth had increased considerably since the last picture was made, the central portion was of a dark bluish-red color, and occupied by an ulcerating area. There was some fever, general malaise, lack of appetite and considerable local pain. Within the fortnight this whole central mass, including the

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

1. Jour. Cutaneous and G.-U. Dis., Oct., 1893.

soft gum and under surface of the nose, broke down in a gangrenous slough and was cast off, leaving denuded the bones of the upper jaw and nasal septum. For a

Figure 2.

time the general condition of the patient was such that an unfavorable prognosis as to her life was made. On April 15, I saw the patient last; the exposed bones

Fig. 3.—Rhinoscleroma.

had then become wholly covered with neoplastic tissue of waxy appearance, in all probability of the same nature as the original tumor.

The patient now, for the first time in my observation of her case, extending over eleven years, desired an operation for cosmetic effect. The reason for this will be better appreciated by looking at the painting which shows the condition as it was about two months ago (Fig. 4). As may be seen, however, any surgical procedure of a radical nature is out of the question.

The other case, which is illustrated in the photographs, is also one upon which a previous report has been made, so I need not go into the history in detail.

The patient, I. T., male, aged 49, a native of Galicia, came to me about three months ago. His breathing through a tracheotomy tube, which he has been compelled to wear since 1891, was labored; he was weak and emaciated, and only able to walk a few blocks from home. Speaking only in a whisper and very indistinctly his history was obtained with difficulty.

Nineteen years ago he had noticed a small growth

Fig. 4.—Sloughing in rhinoscleroma.

upon the right side of the nose, the size of the tip of his little finger. For thirteen years, he says, this swelling remained almost stationary and gave no inconvenience.

In 1891, however, which appears to be, according to his story, three years before there was marked increase in the size of the nose, he passed ten weeks in the Mount Sinai Hospital on account of "asthma," and here a tracheotomy was done. This difficult breathing dates back a number of years. Six years ago patient says he was injured on a street railway, and from this date the nasal growth made rapid headway. The present dimensions and appearances are better appreciated from the accompanying photographs (Fig. 5) than from any description I could give. The nares are almost totally occluded. The skin surface is studded with horny and sebaceous plugs of great size, penetrating deeply into the tissues between greatly dilated veins. The color is for the most part a dusky

brownish-red. At times there appears to be an increased congestion.

The appearance of the pharynx and fauces is striking. The uvula is absent and at its site is a round opening,

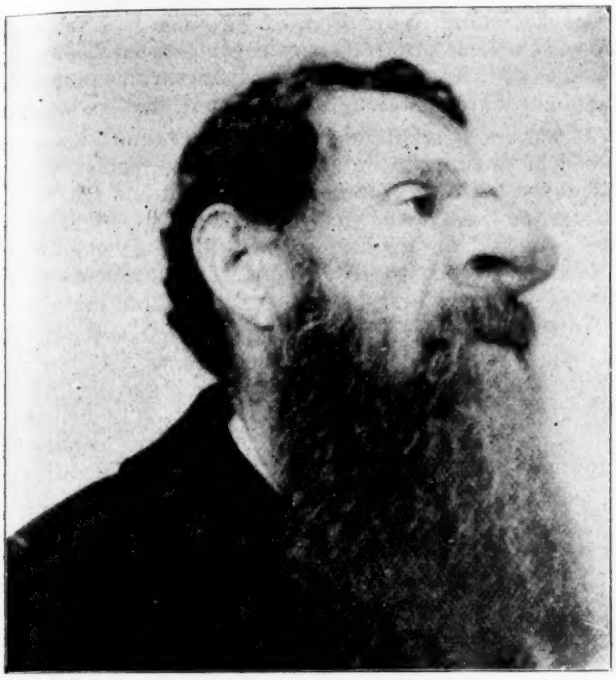


Fig. 5.—Rhinoscleroma.

which would admit a quill into the nasal pharynx. This latter is otherwise shut off by longitudinal bands of glistening, firm cicatricial tissue. Similar bands

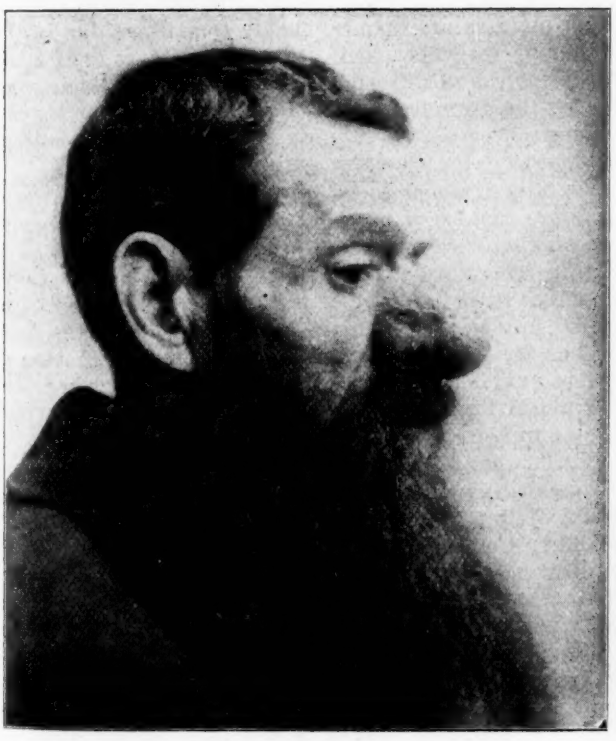


Fig. 5.—Rhinoscleroma.

occupy the lateral aspect of the fauces, giving an appearance somewhat like the opened gills of a fish.

I began treatment with a general tonic course and then gave potassium iodid, but stopped the latter after several attempts, the patient seeming to possess an idiosyncrasy against it. There has been some general but no local improvement.

Fig. 5.—Rhinoscleroma.

It was only after my paper was finished to this point that I learned that this patient's history had already been written, and I have since received, through the

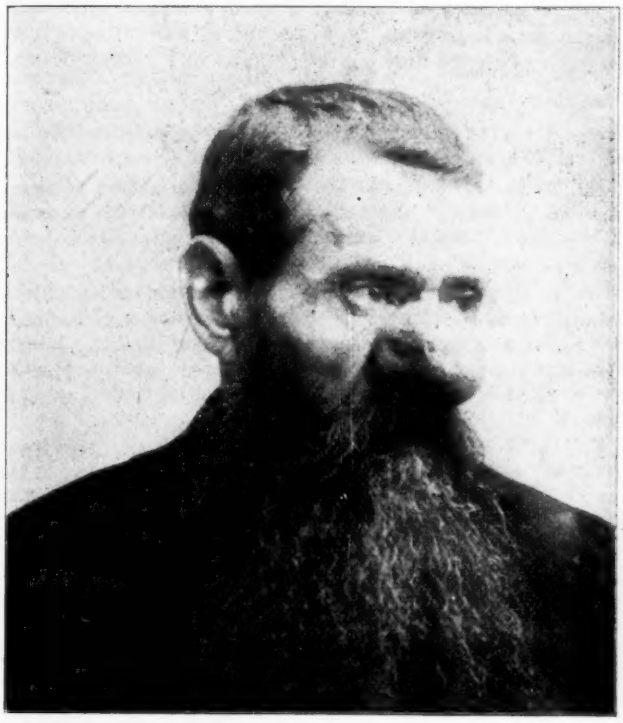


Fig. 5.—Rhinoscleroma.

courtesy of Dr. W. Freudenthal, New York, a copy of his excellent report.[2] I refer to this paper for fuller clinical history. I think, however, that it is well to keep track of these cases and report upon their subsequent course.

2. N. Y. Med. Jour., Feb. 1, 1896.

In Case 1, it is not without interest to note the retrogressive changes, especially in view of the statement so often made by writers that the disease shows no tendency to break down. Jackson says, "The course is without tendency to ulceration or softening." Winfield says, "Tumors never suppurate except as a result of improper or meddlesome treatment." Unna, in his "Histopathology," says, "It is entirely painless and shows absolutely no tendency to spontaneous breaking down." On the other hand, Zeissl[3] has reported an instance in which a considerable portion of the nose broke down in an ulcerative process. The long duration of the process of evolution is well illustrated in both cases.

I would not propose changing a clinical name now so well established, despite its inadequacy to describe the whole condition. A name to do this would have to be something like rhino-labio-palato-orbito-pharyngo laryngo-scleroma, and even then it would not cover every case. It seems, however, to be stretching a point to call the affection rhinoscleroma during the years which may intervene between the time of onset in some mucous membrane, or in the throat and the appearance of clinical signs upon the nose. The term gliioscleroma might be more generally appropriate. Kaposi has already used this term, calling the affection granulation sarcoma.

It is probably to be regarded as an infective granuloma of bacillary origin. In the last case Von Frisch's capsule bacillus was found in abundance and cultivated. Its similarity to Friedländer's pneumo-bacillus is striking, as several observers have pointed out. It is from its description, 5 microns long and 2 microns broad, and occurs singly or in groups within cell protoplasm. A Mikulicz cell, which a recent writer, Marschalk, regards as a specific element of connective tissue origin and the result of a special degeneration caused by their presence may contain bacilli in large number.

DISCUSSION.

DR. J. NEVINS HYDE, Chicago—I have seen rhinoscleroma only in Vienna, never in this country.

DR. D. LIEBERTHAL, Chicago—I have seen a case of rhinoscleroma in Chicago and I am keeping track of it. He is not an American, but hails from Moravia, a territory included in the Slav belt, where this disease occurs.

DR. L. E. SCHMIDT, Chicago—The reason we see so little of rhinoscleroma is probably because a large number of the cases go to men who treat diseases of the nose and throat. I know that this is true in Vienna, as I saw many cases in Stoerk's clinic. Furthermore, Kaposi has frequently made the same remark.

DR. C. W. ALLEN, in reply—In answer to the question I would say that I do not remember having seen anything in the literature bearing upon the etiology, but we regard the disease as one caused by a bacillus. There have been some inoculation experiments, usually negative except one where the culture bacillus was inoculated in the eye and a growth occurred which seemed to be of the same general nature and was regarded as a positive finding, but until it is reproduced in the human being I suppose we can not accept it as absolute proof. Being a disease of such long duration it is probably a disease of long incubation and probably it exists as a very slight affection for many years. So we have the same difficulty in tracing the origin as we do in leprosy. We never have had, so far as I know from the literature, any instance of the disease occurring in two members of a family, where it would point to contagion or infection, and there has never been anything pointing to heredity, so far as I know.

3. Wiener Med. Wochenschr., 1880, p. 621.

THE ROLE OF THE MAST-CELLS IN ACUTE AND CHRONIC INFECTIONS.*

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In discussing the relation of the mast-cells to infections, it will be proper first to consider what knowledge we have of their composition and their various properties that may have a bearing on this question.

It has been maintained that their granules are composed of mucin, on the ground that the metachromism displayed by these granules with thionin and other dyes is similar to that shown by mucin. This seems to be the principal argument for the theory, although some also state that mast-cells are numerous in mucous membranes during catarrhs and in tumors containing mucin.

In the writer's experience, while the mast-cells may be abundant in inflamed mucous membranes, they are few or wanting in tumors containing mucin and in the umbilical cord. They may be much increased in structures where mucin seems scanty, as in scirrhous carcinoma. However, since chemists state that there are certainly a number of varieties of mucin, the granules of mast-cells could not be expected to conform to the staining reactions of all mucins.

Variations in the number and size of the granules are common. The writer has twice seen relatively enormous granules, once in the wall of the fallopian tube in pyosalpinx, once in hypertrophic rhinitis.

What undoubtedly appear like granules free in the tissues are often observed. They may be only sections of the long and sinuous processes which many of these cells possess.

The matrix around the cells frequently stains in the same manner as the granules, though more faintly. Such pictures are unquestionably sometimes due to the action of reagents; they are of interest as indicating the soluble and diffusible nature of the material composing the granules. Ehrlich and Lazarus[1] cite Unna's descriptions of these stained zones about mast-cells as evidence for the secretory nature of the granules.

Usually it seems to be taken for granted that mast-cells are capable of ameboid movement, but it does not appear that such movement has actually been seen. The highly irregular outlines which they not rarely show, no doubt resemble those of moving amebæ. Their occasional presence between the epithelial cells of the skin, argues for their having ameboid movement. A case of myelogenic leukemia has recently been described, the peritoneal fluid of which was rich in mast-cells, which were supposed to have migrated into it.[2]

Evidences of phagocytosis are not often found. Unger also ascribed an important function to these cells in transporting droplets of fat in the active mammary gland.[3] Concerning their origin and manner of multiplication, little evidence is at hand. Mitoses seem not to have been observed. Bäumer who found mast-cells numerous in the lesions of an artificial urticaria, believed they originated from the connective tissue cells of the adventitia of the vessels. The connective tissue cells, not the mast-cells, showed mitoses. The abundance of mast-cells about the vessels when they are present at all, and their increase in hyperemic conditions, are well known.

Concerning their occurrence in normal and pathologic

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Pathology and Bacteriology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

tissues,[5] so much has been written that it will be necessary to adhere closely to the subject of their behavior in the infections. However, their wide distribution among animals and at all periods of life must be noted, as indicating that they have important functions in the normal organism. It is remarkable that they are numerous in the tissues of the rat and rare in those of the nearly related rabbit and guinea-pig. Coen found that they quickly appeared in the skin of the rabbit or guinea-pig in which they do not usually occur, after irritation with iodin.[6]

Mast-cells are uncommon in pus and in muco-purulent discharges. Although it does not appear that any special search has been made for them in acute infectious diseases, the histologies of the infections have been so carefully worked out that they could certainly not have been overlooked. Upon reading recent studies of acute infections of all sorts, one finds that while mast-cells are frequently present in and around the lesions, they have not been seen in such numbers or so arranged that any specific relation has been ascribed to them; as, for example exists for eosinophiles in acute trichinosis. The writer's experience would lead him to adopt a similar view. An exception to this opinion is found in an article on the changes in the tissues produced by experimental bubonic plague, where mast-cells were found in the diseased lymph-nodes in such numbers as to lead the author[7] to believe they perform an important rôle in plague.

In chronic infectious diseases, especially tuberculosis, mast-cells are usually present in the zone of reactive inflammation about the lesions, where they may be numerous. The lesions themselves do not contain them in large numbers, if at all. There is nothing to show that the infectious element causes this increase. The writer has more often found mast-cells very numerous in such material as scrapings from chronic endometritis, uterine myoma, or carcinoma of the breast or lip, than in the vicinity of tubercles or gummata. It should be noted that in myelogenic leukemia the blood contains an increased number of mast-cells, if leukemia be regarded as an infectious disease. Turk has claimed that the parasites described by Löwit[8] for leukemia are mast-cell granules.

In general it may be said that where mast-cells become increased, plasma-cells are likely to be present and in much larger numbers than the mast-cells. This parallelism is not close, however. The writer's impression is that plasma-cells appear to be more definitely connected with infectious processes than mast-cells. The formation of tumor-like masses, often seen with plasma-cells, has been described for mast-cells only in urticaria pigmentosa.[9] The writer has recently had an opportunity to secure a striking confirmation of Unna's observation in a case of urticaria pigmentosa.

It appears from the preceding that evidence is at present lacking to prove that mast-cells have any special relation to infections in general or to any particular infection. But it must be said that the subject has not yet received the study that it deserves. The facility with which these cells may be demonstrated, the large size of their granules, and the exhibition of characteristic reactions by the granules make them a promising field for research.

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SOME INVESTIGATIONS UPON ANTIVENENE.*

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The investigations of the last decade upon immunity to the infectious diseases have led to the discovery of many important and interesting facts. Among the most instructive of these we may mention the successful immunization of animals to serpent's venom achieved by Wolfenden, Phisalix and Bertrand, and Calmette, and the discovery in the blood of the immunized animals of a specific protective substance, first demonstrated by Phisalix and Bertrand, and elaborately studied by Calmette and Fraser.

THE METHOD OF IMMUNIZATION

adopted by Calmette consisted in the administration to horses of progressively increasing doses of cobra venom, slightly modified by heat, until the animals attained a high degree of immunity and antivenene appeared in large quantity in the blood.

COMPOSITION OF VENOM.

It has been well known for many years that the venom of serpents is not a simple poison, but one composed of several distinct poisonous proteids of different physiologic action. In their great monograph upon the subject, Mitchell and Reichert concluded that every venom contained two important poisonous proteids, one of which they regarded as a peptone, the other as a globulin. The former was a nervous poison, whose chief physiologic action was upon the center of respiration, upon which it acted so destructively that nearly all cases of venom intoxication die from more or less rapid failure of the respiration. The globulin they found to be an irritating substance with a marked local action upon the tissues, which it devitalized and disorganized, causing extensive extravasations of blood, necrotic and gangrenous changes, and leading to death from the local injury done. Wolfenden agreed with Mitchell and Reichert except that he regarded their peptone as an albumose, and since the time of these investigations it has been generally accepted that the activity of venoms depends upon the presence of these two bodies, and that the difference in the symptomatology of snake bite depends upon the different proportions in which these active principles are present in the venoms. Thus, the venom of the cobra—*naja tripudians*—contains much of the nervous poison, and but little of the irritative poison, hence cobra bites are apt to cause comparatively little local damage, though they may prove fatal. On the other hand, the venom of the rattlesnake contains relatively less of the nervous poison, and a large quantity of the irritative poison, so that the bite of this snake is apt to be followed by extensive local damage, though usually not fatal.

Calmette found that when venoms were heated to 70-85° C., the irritative poison was precipitated, the nervous poison almost unchanged. The heated poison could be introduced into animals without pain, and

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without tissue disorganization. It was the fatal element of the venom, and suggested itself for the purpose of immunization. All of his antivenene experiments were, therefore, performed with this nervous poison which he secured from cobra venom—the most active venom that could be obtained.

C. J. Martin has taken exception to Calmette's antivenene on the ground that it is an antidote for the nervous poison in the venom, but not an antidote for the irritative poison, and, therefore, is probably not useful or indicated in the bites of those serpents whose venom depends principally upon the latter. He found it inefficient in the treatment of the bites of Australian snakes, whose venoms all contain large quantities of the irritative poison. A literary controversy followed the publication of Martin's views, but it is uncertain whether Calmette succeeded in overthrowing all of his objections.

ITS ACTION.

We must, in consequence of these facts, view the antivenene as being antidotal chiefly against the nervous poison of the venom, the peptone of Mitchell and Reichert—the albumose of Wolfenden. A simple experiment suffices to demonstrate the perfect protection which the antivenene affords against the venom. According to Calmette's recommendation, an inoculation of a quantity of venom that will prove fatal in about twenty minutes is made into the marginal vein of a rabbit's ear, and this at once followed by the appropriate quantity of antivenene. Instead of dying at the expiration of the twenty minutes, the rabbit lives and shows no symptoms. If this curative effect is accomplished by 2 c.c. of the antivenene—the strength made by Calmette—it is said to contain 2000 units.

The protection I have found to be exactly as Calmette asserts and the antivenene is equally active against cobra, rattlesnake and other venoms, when such venoms are heated so as to remove the contained globulin. If the venoms are injected into the ear vein without being heated, the protection afforded is less certain, and if the viper and rattlesnake venoms are injected beneath the skin, still less certain. I did not find that the antivenene afforded complete protection against the local effects of crotalus venom, though it seemed to lessen them.

SOME IMMUNIZATION METHODS.

In some experiments which I was permitted to perform through the kindness of H. K. Mulford Co., I began the immunization of the animals according to the principles laid down by Calmette, beginning the treatment with cobra venom heated to 80 C. to precipitate the globulins. After a short time it occurred to me that if my serum was ever to be used for treatment, it would probably be in this country, where the irritative venoms of the rattlesnakes, moccasins and copperhead snakes are to be combated, and that a serum to have the desirable protective efficacy should protect not only against the nervous poison contained in the heated venom, but also against the irritative globulin as well. I therefore determined to abandon Calmette's method, give up the use of cobra venom, and confine my endeavors strictly to the immunization of the animals with the most irritative venom I could obtain, administered in its natural condition. I therefore began to work with unmodified crotalus venom.

Three horses were used for the experiments, two of them dying early in the treatment. I found that while they bore the initial injections of heated cobra venom without inconvenience, they responded by a violent local reaction to each injection of crotalus venom. The injections were made into the subcutaneous tissue of the neck and each was followed by a very considerable swelling of the tissues, succeeded in every case by an infection resulting in a good-sized abscess and slough. Sometimes enormous areas of skin and subcutaneous tissue became gangrenous and exfoliated, leaving lesions that required considerable time for cicatrization. One horse died from an exceptionally severe local lesion.

After pursuing this mode of inoculation until the death of the one horse and the condition of the others persuaded me that it could not be further continued, and proving that the injections were followed by no local or general immunity to the irritative poison, I decided to try the effects of the injection of the unmodified venom into the venous circulation. The appropriate dose of venom was much diluted with water and slowly introduced into one of the superficial veins, where it was at once further diluted by the blood. This mode of administration was not followed by any local lesion, and produced no symptoms of long duration. In nearly every case the injections were succeeded by a febrile reaction, and for a time—usually less than 12 hours—the horse seemed depressed and weak, and refused to eat. After the lapse of this period the animals seemed well, ate and drank normally, though it must be said that their condition was continually below par. It is quite probable that they might have remained in better shape if the administrations had been less frequent and each dose smaller. This fact, however, only became apparent after the experiments were at an end and the results obtained subjected to careful consideration. During the experiment the matter was left to the discretion of Dr. E. M. Ranck, the veterinary surgeon in charge of the animals. The venom seemed to increase the susceptibility to infection. This probably depended upon the alteration in the germicidal action of the blood, pointed out by Professor Welch and Dr. Ewing, in 1892, at the First Pan-American Medical Congress. Not only was this diminished action shown by the tendency to local inflammations and necroses, but also by a tendency to general infection, for while I lost the first horse in consequence of destructive superficial lesions, the second animal died of pneumonia.

As the doses of venom were increased, the immediate physiologic effects became more and more marked. The venom was slowly injected into the vein, but about the time the total quantity entered the circulation the horse would become unconscious and fall suddenly to the ground. After a few minutes in this condition, with marked cardiac and respiratory disturbance, consciousness gradually returned. The functions re-established themselves and the animal would pull itself together and get up again. After witnessing this phenomenon several times, the horses were supported by "slings" before the injections were given in order that no injury might result from the fall. No serious damage seemed to occur in consequence of the momentary extreme depression, and after a time we came to look upon it without fear.

The early injections of modified cobra venom need not be considered. The treatment of the animals is, therefore, to be divided into these three periods: 1. In which crotalus venom, modified by heat, as suggested by Calmette, was injected subcutaneously. 2. In which unmodified crotalus venom was injected into the subcutaneous tissues. 3. In which unmodified crotalus venom was injected into a vein. The following table (Horse 592) shows the complete treatment of the horse that survived longest and finally yielded to antivenene. The

second table (Horse 774) shows a horse begun at once with intravenous injections. It died of pneumonia. The third horse was begun with subcutaneous injections of unmodified crotalus venom, but died from the effects of the superficial lesions caused by the fourth or fifth injection, so that it is not worth while to introduce his brief treatment.

SCHEME OF THE IMMUNIZATION OF HORSE 592.

1. Heated crotalus venom used for immunization, as suggested by Calmette:

May 30, 1899, 0.01 gram venom; slight local swelling.
June 7, 1899, 0.01 gram venom; slight local swelling.
June 16, 1899, 0.01 gram venom; slight local swelling.
June 21, 1899, 0.1 gram venom.
June 26, 1899, 0.15 gram venom.
July 1, 1899, 0.15 gram venom; slight local swelling.
July 10, 1899, 0.15 gram venom.
July 15, 1899, 0.15 gram venom.
July 19, 1899, 0.20 gram venom.
July 26, 1899, 0.30 gram venom.
Aug. 8, 1899, 0.50 gram venom.
Aug. 15, 1899, 1.00 gram venom.
Aug. 30, 1899, 1.00 gram venom.
Sept. 11, 1899, 1.50 gram venom.
Sept. 19, 1899, 2.00 gram venom.
Sept. 27, 1899, 2.50 gram venom.
Oct. 7, 1899, 3.50 gram venom.

2. Unheated crotalus venom given subcutaneously.

Oct. 17, 1899, 0.50 gram venom.
Nov. 4, 1899, 1.00 gram venom; became ill and had a slough; first test failed.
Dec. 5, 1899, 0.50 gram venom; ill.
Jan. 12, 1900, 0.25 gram venom; ill.

3. Unheated crotalus venom given intravenously.

Feb. 24, 1900, 0.10 gram venom.
March 6, 1900, bled A; tests showed no positive protective power.
March 14, 1900, 0.10 gram venom; ill after injection.
March 27, 1900, 0.25 gram venom; ill after injection.
April 10, 1900, 0.30 gram venom; ill after injection.
Bled B; showed positive protection against crotalus and cobra venom.
April 18, 1900, 0.50 gram venom; ill after injection and unconscious for a short time.
May 9, 1900, 0.75 gram venom; ill after injection and unconscious for a short time.
May 31, 1900, 0.75 gram venom; ill after injection and unconscious for a short time.
July 10, bled C; lessened protective power.
July 10, 1900, 0.50 gram venom; ill after injection; fell unconscious.
July 30, 1900, bled D; lessened protective power.
Sept. 12, 1900, 0.27 gram venom; ill; fell unconscious.
Oct. 16, 1900, 0.50 gram venom; fell unconscious. Some of the venom accidentally caused a periphlebitis of the jugular region, with a large slough from which the horse died.

SCHEME OF IMMUNIZATION OF HORSE 774.

Feb. 24, 1900, 0.005 gram crotalus venom intravenously; very ill.
March 14, 1900, 0.005 gram crotalus venom intravenously.
March 27, 1900, 0.01 gram crotalus venom intravenously; very ill.
April 5, 1900, 0.0133 gram crotalus venom intravenously; very ill.
April 18, 1900, 0.02 gram crotalus venom intravenously.
May 9, 1900, 0.04 gram crotalus venom intravenously.
May 31, 1900, 0.10 gram crotalus venom intravenously.
June 20, 1900, 0.20 gram crotalus venom intravenously.
July 12, 1900, 0.33 gram crotalus venom intravenously; ill.
Aug. 1, 1900, 0.25 gram crotalus venom intravenously; ill; recovered from the injection in about two hours.
Aug. 17, 1900; 0.33 gram crotalus venom intravenously; ill; would have fallen but was supported by slings; recovered from injection in about two hours.
Aug. 20, 1900; developed pneumonia and died a few hours after the nature of the disease was determined.

Much interest attaches to the fate of horse 592, and the circumstances of its death are very instructive. After attaining a high degree of immunity, and tolerating the venom injections from May 30, 1899, to Oct. 31, 1900, and having received many intravenous injections and having recovered perfectly from all of the early superficial lesions, the horse gradually began to decline in condition so that it became necessary to diminish the doses of venom very considerably. The reduction in the dosage was followed by a positive gain in vital condition, and I was in hope that health was again regained when the accident occurred that provoked death. In giving the intravenous injection, Oct. 16, 1900, the needle slipped and permitted the escape of some of the venom into the perivascular and subcutaneous tissue. How much of the venom entered these tissues, and how much entered the vein is not known, but the result of the accident was the immediate occurrence of a large subcutaneous edema which by pressing upon the trachea threatened to cause death from suffocation. Tracheotomy was performed, but the damage done was too great to be borne and the animal died. Thus I think it is proven that from this whole course of treatment, no immunity to the local irritation of the venom was developed, but that the horse, even though able to endure the venom introduced into its circulation, was unable to endure its local action.

The blood of the animals was examined from time to time as the routine work permitted. Horse 774 never yielded any useful serum. The other animal, 592, developed marked antitoxicity, with the presence of a useful quantity of antivenene, but as is usual in antitoxic horses, the antivenene gradually diminished.

The method of testing the antivenene was that already outlined, as having been invented by Calmette. The determination of the dose of unmodified venom that would kill a rabbit was difficult.

SUMMARY OF THE TESTS MADE TO DETERMINE THE FATAL DOSE.

These tests are not put down in chronological order, but according to size in order that the result of diminution may be apparent. Absolute accuracy was not attained, but it was thought that the doses selected were reasonably accurate. The solutions used were 1 per cent. aqueous solutions of the dried venom, protected from decomposition by the addition of a small amount of carbolic acid. Adult rabbits (2 kg.) only were used for the experiments.

CROTALUS VENOM.

1.00	c.c.	standard	venom	sol.	inject.	into	ear-vein	Rabbit;	died.
1.00	"	"	"	"	"	"	"	"	"
1.00	"	"	"	"	"	"	"	"	"
0.75	"	"	"	"	"	"	"	"	"
0.75	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	lived.
0.50	"	"	"	"	"	"	"	"	"
0.50	"	"	"	"	"	"	"	"	died.
0.25	"	"	"	"	"	"	"	"	"
0.25	"	"	"	"	"	"	"	"	lived.

These tests show the difficulty met with in endeavoring to locate the fatal dose. My conclusion was that it was only safe to experiment with doses large enough to eliminate doubt as to the consequence of venom injection and after the early tests in which 0.5 c.c. was used as a test dose.

COBRA VENOM.

1.00 c.c. 1 per cent. aqueous cobra venom sol.; died in 2 min.
0.20 " " " " " " 15 "
0.20 " " " " " " 1 "
0.10 " " " " " " 2 "
0.10 " " " " " " ? "

The agkistrodon contortius (copperhead snake) yielded a feebler venom than the crotalus.

TESTS.

1 c.c. 1 per cent. aqueous solution dried venom; rabbit died.
1 c.c. 1 per cent. aqueous solution dried venom; rabbit lived.

I found that the preservation of venom in the dry state is almost permanent, as some crotalus venom, which I secured through the kindness of Mr. Thompson, keeper of reptiles at the Zoological Gardens of Philadelphia, after having been dried for more than ten years, was as strong as that freshly obtained.

TEST.

0.50 c.c. 1 per cent aqueous solution, injected into the ear-vein caused the death of the rabbit in 6 minutes.

Solutions of the dried venom in 1 per cent. carbolic acid keep almost indefinitely, especially if kept cold. I made a solution of this kind on February 21, 1900, testing it March 12, 1900, April 18, April 23 and October 3, 1900, without finding that it had changed appreciably. On the other hand, I found that when aqueous solutions were not protected by the addition of the antiseptic, they lost virtue, so that in 48 hours they were worthless. This difference, of course, depends upon the destruction of the venom by saprophytic bacteria.

I have no doubt but that it would have been much easier to accurately estimate the minimum fatal dose of any venom modified by heat. It was my desire, however, to protect against the other principle of the venom—the one precipitated by heat—therefore, I desired to work with unmodified poison. It is true that by injecting the venom into the vein I inhibited the action of this principle by excessive dilution, so that after all, all the protection that my antivenene afforded was probably against the nervous poison. However, concerning the blood of horse 592, the following tables will show what tests I made, and with what success.

The venom was always mixed with the serum before injection into the ear vein—this procedure differing from the method of Calmettte.

HORSE 592.

The serum was examined at five different periods during immunization, i. e., trial, A, B ,C and D bleedings.

In making the tests the animals chosen were adult rabbits of approximately equal size (2 kg.). Each received a known fatal dose of venom, which, except in the instances stated, was mixed with the serum tested, and injected into an ear-vein. As the serum sent me by M. Calmette was protective in doses of 2 c.c., I used that dose as a standard for comparison.

1. Period when no protective power was demonstrable; trial bleeding.

TESTS.

0.5 c.c. standardized crotalus venom + 4 c.c. serum; rabbit died.

CONTROL TESTS.

0.50 c.c. standardized solution; rabbit died.
0.50 c.c. standardized solution; rabbit died.
0.25 c.c. standardized solution; rabbit died.

2. Period of uncertain protection; bleeding A.

TESTS.

1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit died.
1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit lived.
0.5 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit died.
0.5 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit lived.

CONTROL TESTS.

0.5 c.c. standard solution; rabbit died.
0.5 c.c. standard solution; rabbit died.

3. Period of complete protection against crotalus venom.

TESTS.

0.75 c.c. standardized crotalus venom + 1 c.c. bleeding B; rabbit lived.
0.75 c.c. standardized crotalus venom + 1 c.c. bleeding B; rabbit lived.
1.00 c.c. standardized crotalus venom + 2 c.c. bleeding B; rabbit lived.
2.00 c.c standardized crotalus venom + 2 c.c. bleeding B; rabbit lived.

CONTROL TESTS.

0.75 c.c. standardized crotalus venom; rabbit died.
0.75 c.c. standardized crotalus venom; rabbit died.
1.00 c.c. standardized crotalus venom; rabbit died.
2.00 c.c. standardized crotalus venom; rabbit died.
2.00 c.c. standardized crotalus venom; rabbit died.

Partial protection against cobra venom.

TESTS.

0.1 c.c. standardized cobra venom + 2 c.c. Calmette's serum; rabbit lived.
0.1 c.c. standardized cobra venom + 2 c.c. serum B; rabbit lived.
0.1 c.c. standardized cobra venom + 2 c.c. serum B; rabbit died later.

CONTROL TESTS.

0.1 c.c. standardized cobra venom; rabbit died.
0.1 c.c. standardized cobra venom; rabbit died.

4. Period of decline of protective value.

TESTS.

0.1 c.c. standardized cobra venom + 2 c.c. serum C; rabbit died.
0.1 c.c. standardized cobra venom + 2 c.c. serum D; rabbit died.

CONTROL TEST.

0.1 c.c. standardized cobra venom; rabbit died.

HORSE 774.

As this animal stood the immunization very badly and was ill or supppurating most of the time before its death, only once was blood taken for examination; bleeding A.

TESTS.

1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit died.
1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit lived.
1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit lived.
1.0 c.c. standardized solution of crotalus venom + 2 c.c. serum A; rabbit died.

CONTROL TESTS.

1.0 c.c. standardized solution of crotalus venom; rabbit died.
1.0 c.c. standardized solution of crotalus venom; rabbit died.
0.5 c.c. standardized solution of crotalus venom; rabbit died.
0.5 c.c. standardized solution of crotalus venom; rabbit died.
0.5 c.c. standardized solution of crotalus venom; rabbit died.
0.5 c.c. standardized solution of crotalus venom; rabbit died.

From these tests it may be inferred that the serum was possessed of a feeble protective power. The tests are too few to be conclusive, but as the serum was lacking in the desired protective power, and as the horse died subsequently, it was not deemed worth while to pursue the matter further.

In some cases not included in the tables, the injected mixture failed to enter the vein, or only part of it entered. In these cases the invariable result was the formation of a large superficial necrosis, and sometimes the loss of most of the ear.

CONCLUSIONS.

From these experiments I think it is safe to say that:

1. It is not difficult to produce immunity to the nervous poison contained in serpent's venom, as shown by Wolfenden, Phisalix, Bertrand and Calmette.

2. This immunity when carried to a high degree is associated with a marked antitoxic power of the blood.

3. It is very difficult if not impossible to produce immunity to the irritative poison of the venom.

4. Antivenene does not protect very powerfully against the irritative poison.

5. Antivenene protects against the nervous poisons of various venoms.

6. Immunity to the unmodified venom is better secured by intravenous than by subcutaneous injection.

7. Calmette's method of immunization with the modified venom is greatly to be preferred to the method of immunization to the unmodified venom as tried in these experiments, because of the modicum of danger and suffering to the horses used.

8. Calmette's antivenene is more useful for the treatment of the bites of cobras and colubrine serpents than for those of vipers, etc.

9. As the antivenene protects against the chief death-dealing element in the venoms, it is of great use in the treatment of all serious bites, and should be used whenever possible.

10. The neutralization of the nervous poison of the venom by antivenene will enable the individual to devote all his vitality toward overcoming the local injury done by the irritative globulin in the venom.

11. All individuals—certainly not all horses—are not equal in their resisting power against venom. Two of my three horses succumbed quickly to the venom injections.

12. The antivenene producing power varies in different horses.

13. The quantity of antivenene in the blood varies from time to time, according to circumstances.

A CASE OF LOCALIZED AMNESIA.*

EDWARD E. MAYER, A.M., M.D.

PITTSBURG, PA.

The following case illustrates one of those interesting phases of abnormal psychologic experience, which have been occasionally noted in actual life, and which have as often been made the subject of novels. When used in literature they are looked upon as the invention of an imaginative mind, yet observations of scientific men have shown even more novel and seemingly impossible instances than are portrayed in books. The cases of Macnish, Sidis, Azam, Dufay and others have been made the subject of much comment, and the works of Azam, Ribot, Binet, Sidis, Richet, Tuke, Maudsley and writers of this class have helped to lift the clouds that surround our conceptions of consciousness and personality. The following case of amnesia presents such very peculiar features that it has been thought of sufficient interest to warrant its presentation.

Charles W. was born in Eastern Pennsylvania in 1860. His father and mother became separated, though keeping up a communication with each other. In 1884, the son, hearing of his father's death and knowing that the latter had some property in the West, where he had lived, set out to investigate. Traveling west from Chicago, he had gone but a short distance when the train was wrecked. That was seventeen years ago. He remembers at the present time that there was a crash, that he felt himself hurled through space, and then—nothing. In February of this year he became unconscious and after twenty-four hours, when he awoke, the seventeen years between the accident and the present had been completely obliterated and he had gone back to the time of the accident. He thought that he was 24 years of age, as he had been at that time, and he recognized neither his wife nor his own children; in fact, he had no knowledge of ever having been married and had also forgotten his business and his friends. He was an entire stranger in the city where he had lived for a long time, and the trolley cars upon which he had ridden for years, and the electric bells which he had used repeatedly, were as strange to him as upon the first time that he saw them.

WHAT HAPPENED IN THE SEVENTEEN YEARS.

The first five years after the accident are lost. Mr. W. has no remembrance of anything that happened, neither is there any one known who can tell of his life during that time. Twelve years ago he first came to Pittsburg; there he met his present wife, and two years later they were married. She has supplied the information as to the details of his life up to the present time. We present only that which has a bearing upon our subject. At no time during these twelve years did he give any information concerning his previous life. Insistent questioning on the part of his wife always failed to reveal anything. He had, however, always remembered his name; that point should be especially noted. Shortly before his oldest child was born, nine years ago, he wandered away one Sunday afternoon and did not return until Monday evening. This was exceptional with him, for he never went out, other than to work, unless his wife accompanied him. He was a total abstainer, therefore alcohol could not have been responsible for this action. His only answer as to where he had gone, was that he had been out riding.

About a year later, eight years ago, while painting a house with his brother-in-law, he suddenly stopped work and went away without saying anything by way of explanation. Two days later a postal card was received from him, written at his mother's house, so he wrote, and telling his wife that he would be home in a day or so. This is the first knowledge his wife had that his mother was living, but ever afterward he remembered her. The memory of his mother seemed to have come to him suddenly, and, acting impulsively, he had instantly gone to visit her.

During these years he worked in succession at farming, running a sawmill and painting. He was at times afraid to come home, his wife states, and seemed constantly downhearted and worried. So moody did he become that she was afraid to leave him alone with the children.

He was always affectionate, was a kind husband and a good father. He suffered much from sick headaches, the pain of which would make him almost frantic. He would often moan in his sleep, but was never somnambulistic. While conversing he would often stop in the midst of a sentence and commence anew without seeming to realize it. He had an attack of painter's colic several years ago, but the exact time is not known. Some time ago he began to have violent pains over the right hepatic region, and this region began to swell up, "long strings of corruption," as his wife styled it, being passed through the mouth. The condition was relieved somewhat by free action of the bowels and kidneys, but it recurred monthly for a time; later the intervals became longer and the suffering less in intensity with each attack. The pain, however, was present between the attacks, and to such an extent that no one could sleep with him on account of his restless tossing from the pain.

Dr. S. G. Small, his physician at that time, diagnosed the condition as one of hepatic abscess. The slightest

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

touch over the liver region caused intense pain. The last attack was on February 23, 1901, and he was walking the floor of the dining-room, suffering intensely, when a daughter who was in the room accidentally overturned the lamp. Mr. W. tried to catch it as it fell, but as he reached for it murmured, "Oh, my head," and fell to the floor unconscious. He was put to bed and Dr. Small summoned, but all attempts to revive him remained futile. About 4 a. m. he awoke for an instant, but again went to sleep. He awoke some time in the morning, asking, "Am I much hurt?" His wife wonderingly replied in the negative, and he then inquired as to what hospital he was in and asked whether she was the nurse. Upon being told by her that she was his wife he resented it by saying that he was not in the mood for joking.

After sending for the doctor, in obedience to his request, she asked him whether he wanted to see his children. "I'm not married," he replied. "It's a nice thing for a man 24 years of age to wake up and be told that he is the father of four children." "But you are not a young man," persisted his wife. Finally a mirror, pictures taken of him at various intervals, his marriage certificate, and the various exclamations of the four children who were brought in, convinced him of the truth of her statements. He did not recognize the doctor, to whom he insisted that he felt entirely well. No further evidence of hepatic abscess was present and he had not the slightest feeling of pain, being able to stand quite severe blows where formerly the merest tap was excruciatingly painful. The next day he came under the care of the writer.

PRESENT CONDITION.

I found a man of spare build, 5 feet 9 inches high, weight 132 pounds, spanning 5 feet 11 inches from the tips of one hand to the other. His head was 22 inches in circumference and 12.5 inches from glabella to inion. The long bones were all well formed, but his chest was slightly carinated. His musculature was under-developed, the dynanometer showing 42 on right side and 40 on the left. Both deep and skin reflexes were about normal. His pupils were wider than normal and reacted slowly to light. All ocular muscles functionated normally. His head and face are asymmetric, ears badly set and protruding, but not very badly formed. His lips are thin and compressed, his teeth uneven and irregular, and the palatal arch is very high. Upon the right side the labial folds are much slighter than upon the left, and he shows traces of a former right facial palsy; however, no history of it can be obtained. He gives a totally negative family history and all his children are healthy except Ruth, who is 7½ years old and did not speak until she was 6 years of age. She was born with "the cord around her neck," the mother says. She is choreic and when sent to school last fall she was sent home by the teacher with a note saying that as she constantly slept in school, she had better be kept at home. She is a middle-grade imbecile.

This patient presents nothing pathologic upon examination of his various organs. Sexually he is normal, his wife having again become pregnant recently. His childhood, which he now remembers, reveals nothing abnormal. Attention, judgment, perception are all good. He has a high moral sense, never smoked or drank, has been a steady church-goer, and is now considerably worried for fear of having done something wrong in the five years after the accident, as his actions during that time are totally unknown to every one whom he now knows. His memory for recent events and for those up to 1884 are perfect. Close questioning by myself and also by various members of the Pittsburg Academy of Medicine, before whom he was presented, failed to detect any error or lapse in his story.

At the present time he passes his former friends in the street without recognizing them, and is much embarrassed when accosted by any one. He must be closely directed else he will miss his way on the street. When going to consult the doctor he stood outside until noticed, not finding any knocker and never, so far as he knows, having seen an electric bell before. The same is true with all the modern improvements he sees.

On account of his illness of the last two years he had been compelled to quit work and his wife had opened a small grocery store. He had spent his time, as far as able, in delivering goods in the neighborhood or in taking orders for the store. He is now ashamed of the condition that he finds his "new" family in. In going over the books, something he had never done before, he rebuked his wife for the careless way in which they were kept. He did not remember the customers that he had daily called on for orders.

He has spent much time picking up the details of his old life, relearning it from his wife's lips. His memory seems to be very retentive, but his wife says that formerly he was very forgetful. Being anxious to better things, his friends secured for him a position at his old trade. He found that he did not know anything about it, but his employers were kind to him and he began to relearn it, but only able to earn the wages of an apprentice, while formerly he had been able to command one of the highest salaries in the city at his trade. He began to have heavy depressing dreams. It seemed that their central idea was one of being declared insane and being sent to an asylum—the comments of his friends, the strangeness of his life and the unfortunate newspaper notoriety given him worrying him very much. On March 8 he left home at 8 a. m. for work. He did not return until 9 p. m., staggering like a drunken man, weak and exhausted, and declaring that he found himself at 5 p. m. in Greensburg, about 30 miles away from his home, and took the next train home. He had no recollection of going there nor can he give any reason. Information reached us later of his having stopped at a wholesale house in the morning and of his ordering some goods for his wife's store. The salesman reported that he seemed dazed and confused at that time. The next day, his wife not knowing this, she gave him $25 with which to buy groceries. He left home and did not return. No trace of or word from him has since reached us, and he seems to have entirely disappeared from the face of the earth.

This is then Mr. W.'s history. We shall make a few remarks concerning his condition, not, however, going into detail, as what we might say would be only a rehash of the writings of Ribot, Binet, Sidis and others.

EXPLANATION OF CONDITION.

What constitutes memory? It is plainly the consciousness or recognition of events and impressions. These must be retained or reproduced, but unless recognized by our conscious ego would not be remembered, psychologically speaking. Impression and reproduction are the two essential elements of memory, but, unless we can localize, we are not conscious of the first two. Studies in amnesia or loss of memory have shown that it is first confined to recent events, and embraces, in turn as it progresses, ideas, sentiments, affections and actions.

In the present case the amnesia may be called localized after the classification of Boris Sidis, because it embraces a definite period of time. We have with him similar alterations of personality to what we see in somnambulism and petit mal, where we find the presence of certain automatic acts, but without the other factors of conscious personality. A difference, however, lies in the fact that in one case memory localizes the acts, in the other it does not; but in both cases we have the impressions of acts or ideas and their reproduction. Mr. W.'s loss of memory was not complete, and it is rare to find a complete amnesia. His remembrance of his name, his retention of the automatic acts of speech, walking, etc., are examples.

We see also in the sudden remembrance, eight years ago, of his mother's name and address, an interesting example of an impression present in the subconscious mind, welling up, becoming recognized by his conscious ego and becoming a conscious memory. It is probable that in these seventeen years many other old memories were revivified, but were not localized for any period of time, or were not strong enough to be actively remembered.

The patient's condition during these seventeen years was not, from what we can gather, a normal one. His moodiness, his fits of abstraction amounting at times to a condition of distraction, reveal this. He would often sit when talking to someone, staring intently into space as if he wanted to look through them, as they expressed it. This was particularly noticeable in recent years, after his attacks. The picture, which I will pass around, taken after one of these attacks, shows vividly his abstracted, staring look and an ocular paralysis, which is not present now.

Were these periods of changed personality, of transient duration, so slight as not to be recognized? Were they simply conditions of alternated personality, unnoticed by his ego, in which subconscious memories were active? No one can say. We know that the conscious and the subconscious are ignorant of each other. It seems as if the lower consciousness is able to arise to the surface and take charge of things, the individual showing no signs of having once known the other—the conscious ego. Professor James' case of Rev. Ansel Browne and Osgood Mason's case of Alma Z. shows this.

It may be that Mr. W.'s case is an example of dual personality, often seen as a manifestation of epilepsy. The fragmentary account, as given to us, of his previous life, seems to indicate the presence of psychic automatism at times. Those temporary attacks of abstraction and his frequent stopping in the midst of a sentence are very much like petit mal. Consider in this light the latter period of his history, when observed by us. His wandering to Greensburg, awaking there unconscious of how he had come, his mind a perfect blank concerning the five or six hours which had preceded; this is similar to what we observe in procursive epilepsy. His second wandering, no knowledge of his whereabouts for the last eight weeks having been obtained, might be the result of another alteration in personality similar to what had happened before in his history.

Consciousness is not a simple matter; in fact, we do not have a single consciousness, but states of consciousness, just as we do not have a will but volitions. It must not be supposed that we can sharply divide organic from psychic memory. All stages of transition exist, from the purely subconscious to the conscious. With Mr. W. we seem to have a sudden transition, due to cerebral shock, with just as sudden a change to his primitive memory, after a lapse of seventeen years. This was almost a complete change from conscious to subconscious memory. But it is extremely probable that he presented transient changes in the intervals, so slight in intensity, so short in duration, that he was not cognizant of them, except, as in dreams, for the time being.

HYPOTHESES.

Two hypotheses have been given to show the cause of such amnesias: 1, "the registration of anterior states being effaced;" 2, "the conservation of anterior states persisting, their power of revivification by association with the present being destroyed." Mr. W.'s case seems to show the truth of the latter hypothesis. If the registration of anterior states were effaced, would they so suddenly recur after a lapse of seventeen years? Is it not more probable that they were suddenly revivified by being associated in some way with the present and the memory of the seventeen years at the same time becoming disassociated? We see that the semi-organic memories, i. e., speaking, walking, etc., remained intact, they were permanent, automatic, while personal impressions were entirely inhibited. In his case they were not destroyed but were simply suspended, as they returned in full intensity after an absence from consciousness of seventeen years. This is what is called by Sidis a dissociation of moments of consciousness. It is according to his views a dissociation, not of individual cells where impressions are supposed to be stored, but of the cellular groups or memory as we all know is not a simple state but a very complex one. We have in addition to this dissociation, a disaggregation of the cells, a breaking up of cellular complexes.

Amnesia has also been explained physiologically in accordance with the neuron theory. The cells which are joined by their terminal processes unite to form groups, then systems, communities, clusters and constellations. The more complex these associations are the more unstable it is. When amnesia is complete we have a retraction of terminals and of fibers down to the final one in the nerve cell itself. This hypothesis, founded on the retraction theory of the neuron, not yet proven itself, must wait before it can be accepted. In fact, we have no adequate explanation of these processes.

No one has proven that cells receive and store impressions. We accept the hypothesis of idea-association centers on the path between the sensorial gateways and the motor centers, without it having been proven, though from the destruction of certain parts of the brain causing aphasia and the like, we are almost warranted in doing so. Many of us believe in the vibratory theory concerning the receiving of impressions, but the fact remains that the exact nature of these processes remain unknown and perhaps unknowable. Wernicke's recent hypothesis and his sejunctive state, which figures in it so prominently, is also ingenious but not conclusive.

Attempts were made to study Mr. W.'s psychic processes during the time that he was under observation, but with no results. His dreams never revealed anything of his past, forgotten life, and his entire waking period was dominated by the fear that his strange experience would lead to his incarceration in an insane asylum. Attempts to suggest to him proved unavailing, yet his mental equipoise was increasing, calm was succeeding anxiety, and his weight had increased eight pounds in six weeks. Then he suddenly vanished from all the life he had known.[1]

1. Later.—September 2, 1901, Mr. W. came back to Pittsburg.

DISCUSSION.

DR. T. D. CROTHERS, Hartford, Conn.—This is one of the very rare and unusual cases we sometimes hear of, and it has been studied with a great deal of care. These patients are examples of a subconscious state, and offer a promising basis for new fields of study. They furnish the outline of a new phase of psychologic study which will receive more attention in the future than it has in the past. Dr. Mayer's case is a phenomenal one in many particulars.

DR. J. H. MCBRIDE, Los Angeles, Cal.—Pennsylvania seems to be a paradise for cases of this order. In the Mary Reynolds case reported by Weir Mitchell there was a number of times in a long life a complete amnesia of her previous personal history, with the development of a new and different consciousness, during which a restless and aggressive personality took the place of the former quiet and retiring one. The case of the clergyman Ansel Bourne, of Rhode Island, is interesting in this connection. He disappeared suddenly, and some months later was found running a little shop in a village in Pennsylvania, to which state he went when his old consciousness was so suddenly swept away. While in Pennsylvania he seems to have had no recollection of his home, family or previous life, but very suddenly one day his old consciousness returned to him and he was greatly alarmed to find himself in strange surroundings. Professor James hypnotized him and reproduced the amnesic state, and while hypnotized he failed to recognize his wife and friends and could not recall his name or residence.

DR. C. EUGENE RIGGS, St. Paul—About five years ago at the Salpêtrière, I had my attention called to a case of dual consciousness which had existed practically during the life of the patient. At certain times she was an ignorant and uncultured woman; at others she was educated and refined. These two striking contrasts in her mental condition were very interesting. Some years ago one of my medical friends in this city sent me a case of nocturnal epilepsy. The patient was a commercial traveler who spent most of his time on the road. After one of these epileptic attacks he would go from town to town, take orders from his customers, write letters to his firm, and yet be absolutely unconscious afterwards of what he had done, nor were those with whom he came in contact during one of these spells aware that he was not in his normal condition.

DR. HAROLD N. MOYER, Chicago—We have recently had in Chicago a case strikingly similar to the one described by Dr. Mayer. Unfortunately, we were not able to get the early history of the patient. About three or four years ago she had a sickness, the nature of which I was not able to learn, and upon her recovery there was complete loss of memory for a period of about four years preceding her illness. When I saw her she had no recollection of the last eight years of her life. It was found impossible to re-educate her, as she was utterly incapable of registering impressions for a period longer than a few seconds. Her mental condition corresponded perfectly to what you would expect from a person who had lost the power of registering mental impressions. Her reasoning powers were not affected only in so far as she was unable to register impressions and retain them.

DR. W. A. JONES, Minneapolis—Dr. Mayer's paper has recalled two or three cases that have come under my observation. The first case occurred in London, and it was looked upon as one of those cases of mysterious disappearance. The man disappeared from home, assumed another name, engaged in another occupation, and after a number of months returned. He was unable to recall anything that had occurred during his absence from home. Dr. Ferrier regarded it as a case of epilepsy of a peculiar type. A man in Omaha, with a neurotic family history, suddenly left home, and when he regained his former mental condition, which was several months afterwards, he found himself at work in a lumber-yard. His hands showed the effects of hard labor. Subsequently, he became an Eddyite lecturer, and he continued at this work until he had trouble with his board of managers. He has since renounced Eddyism and gone back to his original business. A young man in Minnesota suddenly left home. He found himself on a steamer in mid-ocean. Subsequently, he borrowed a large sum of money, which he spent in London, and returned home. He was then sent to a hospital for the insane, where he is still an inmate.

I recall a man coming from Iowa who was supposed to have epilepsy. He suffered from attacks of temporary unconsciousness, which he described as coming on with a peculiar sensation; his head apparently was lifted from the shoulders, and he could watch it as it gradually disappeared. Following this sensation, he had periods of partial consciousness lasting for hours or days. Suddenly his head would appear as a speck in the distance and gradually approach and settle on his shoulders, and then he returned to his normal state. We subsequently discovered that this man was under indictment in Iowa for having made away with a large sum of money, and that he had left town to escape arrest. In some of these cases it is pretty difficult to decide whether the person is suffering from an improperly received and improperly discharged impression, or whether he is an example of a peculiar type of degenerate, and is clever enough to assume these abnormal conditions. Some of these cases are no doubt genuine, while others are open to question.

DR. F. SAVARY PEARCE, Philadelphia—Last year, while investigating the subject of deaf-mutism, I saw a report that a man in Pittsburg who had been deaf for a long time had had his hearing suddenly restored. In order to verify the report, I sent an inquiry to the editor of the *Pennsylvania Medical Journal* (See August, 1900, issue), and was informed that a man, 69 years of age, who since twelve years of age had been a deaf-mute following ear disease; had fallen from a ladder and sustained a slight shock. Shortly after this he began to speak well and intelligently and his hearing was restored in one ear. The question arises whether he had been malingering all these years. Since then I have seen the same case reported in the January, 1901, Number of the *American Annals of the Deaf* by a layman. The man is no longer a deaf-mute. This whole subject again brings up the theory of the possible motile activity of the neurons. Usually an injury forms part of the history of these singular cases, and there is no doubt that injuries frequently cause great disturbance in the nervous system, whether we understand the mechanism of the changes that occur or not. The so-called neuron theory will satisfactorily explain away normal association and co-ordination of nerve force; and certainly offers a beautiful explanation of the phenomena cited to-day, i. e., some forms of amnesiæ, certain double conscious states, and restored hearing and speech as in the case I mention.

DR. EDWARD E. MAYER, in reply—Many of the cases cited by the gentlemen who took part in the discussion seemed to be

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His wife had gone to the Union Station to seek work as a car-cleaner, having had difficulty in supporting herself after their savings had gone. There she met a man who had just stepped off a train. He held out a piece of paper and asked her if she could direct him to the address. It was one of my letterheads, which he had found in his pocket. She then recognized him and took him home. He had left home on the 9th of April. Upon the 11th, he found himself in a hotel in Wheeling, W. Va., was asked to register and, confused, wrote down a name, which he retained till his return. His own name and all recollection of the past were forgotten. He wandered around, found work as a painter, and at last determined to seek me out and try to find out who he was. His employers dissuaded him from leaving for some weeks, he claims, after finding my address in his pocket. He is depressed and moody, reticent and suspicious, does not recognize me and refuses to allow me to examine or interrogate him. Formerly he was friendly and loquacious. Since he has returned home (till November 4) he has had three attacks, in which he feels dazed, like he was walking on air, voices appear muffled to him, and he says that he does not feel like the same man at those times. This condition lasts about two days, but does not prevent him from working (painting). He has a constant headache and looks badly. Is much emaciated, restless, and very downcast. His wife is worried at his statements, but does not notice anything wrong. His memory is as it was before he left, but he does not remember what happened from April 9 to 11. This looks very much like a phase of epilepsy, but I have not seen any of these attacks myself, and only have his statements of them. He refuses to see me or any other physician and further questioning by me at his home elicited nothing additional to what is noted above.

true examples of ambulatory epilepsy or somnambulism, and not, properly speaking, cases of localized amnesia. In my case the length of the period of amnesia, namely, seventeen years, is remarkable, as well as the sudden onset from a severe psychic shock with the sudden return of his original conscious memory. This seventeen years' lapse was in my mind not epileptic. Suggestion was tried upon him in all different ways, with no result in bringing out any details. In answer to Dr. Crothers, I would say that all memory of his previous occupations had been entirely lost.

THE TREATMENT OF FRACTURES OF THE FEMUR WITH THE AMBULATORY PNEUMATIC SPLINT.*

WALTER B. METCALF, M.D.
CHICAGO.

The treatment of fractures of the femur has from time immemorial been an ungovernable condition, never fully under the control of the surgeon. The condition has been a source of anxiety to the surgeon and not an infrequent source of deformity to the patient. The injury has invariably resulted in shortening, which varied in amount from three-fourths of an inch to three and one-half inches, and in rare cases even more, with an average disability of twelve weeks' being the time offered by the Standard Accident Insurance Company as a cash settlement at the time of the accident. Heilfrich, in his book on fractures published in 1900, gives an average time for healing as thirteen and one-half months, with 34 per cent. able to work and 66 per cent. unable to work. In view of these facts I report the following case:

April 6, 1901, Mr. A. G. B., age 34, married, weight 205 pounds, height 6 feet and 1 inch, sustained a fracture of the left femur while bowling, caused by muscular contraction in the effort to throw the ball. The fracture was complete, there being free mobility at the point of injury. Little care was used in moving him to his home, and as a result the tissues surrounding the fracture were very much mutilated. The ecchymosis and extravasation that followed involved the limb from below the knee to the crest of the ilium. Forty-eight hours after the accident the circumference of the injured limb at the junction of the middle and upper third was fourteen inches more than the right one at the same point. The amount of fluid at this time about the knee joint was enormous. In fact, the whole picture of the injured limb at this time was of as severe an injury as I have ever seen of a thigh, barring one requiring an amputation. Dr. Buford, who examined the limb at this time, confirmed the severity of the injury. On the third day after the accident, with the assistance of Dr. J. G. Hughes, a pneumatic splint was applied. the limb was measured and showed one and one-half inches of shortening. It was impossible at this time to get complete extension because of the great swelling. A gentle massage of the limb was kept up at frequent intervals; which was easily done while the splint was on. By the fifth day the swelling had subsided enough so that the foot was brought down in perfect position.

Twenty-four hours after the application of the splint, the patient was free from pain, and could move himself about in bed with perfect ease. Two weeks after the application of the splint he was about the house. The next week he was going about the street, and in less than four weeks after the application of the splint he was at his office; he was sleeping without his splint, and was able to get into a bath-tub unassisted. Measurements made by Dr. W. H. Vary, Dr. J. G. Hughes, Dr. Ochsner and the author, show that there is no shortening in the injured limb.

The following advantages are gained from experience with the pneumatic splint: 1. It can be applied without assistance. 2. Fractures can be reduced without an anesthetic. 3. Patient can move about freely in bed, after its application. 4. Gives free access to compound fractures without removal of splint. 5. Reduces the time of disability over one-half by American report. 6. Prevents shortening. 7. Prevents angular deformity. 8. Changes our pathology. 9. No complete circular constriction to impair the blood supply to the limb. 10. Massage can be given to the entire limb without removing the splint.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee of the Section: W. J. Mayo, H. O. Walker, and A. J. Ochsner.

REMARKS ON THE TRAUMATIC NEUROSES.

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CHICAGO.

I think we are agreed in understanding traumatic neuroses to mean functional disturbance of the nervous system caused by traumatism. In the present state of society this traumatism is generally accidental. We are doubtless also agreed that in the symptomatology of the traumatic neuroses there is nothing pathognomonic of injury by violence and that a case of traumatic neurosis generally presents a picture of hysteria, neurasthenia or hypochondria, or, what is more frequent, a combination of two or all three of these neuroses. A certain admixture of melancholia is far from rare.

In the diagnosis of any neurosis the most essential step is not the recognition of a neurosis, but the exclusion of organic disease. For this a single examination will not always suffice, as a combination of the two is very common, and the former may so obscure the latter as to make its prompt and positive recognition impossible. Sometimes it is exceedingly easy. When organic change is undeniably present, it is still important to determine the presence of functional trouble, as this must necessarily have great influence on prognosis and treatment.

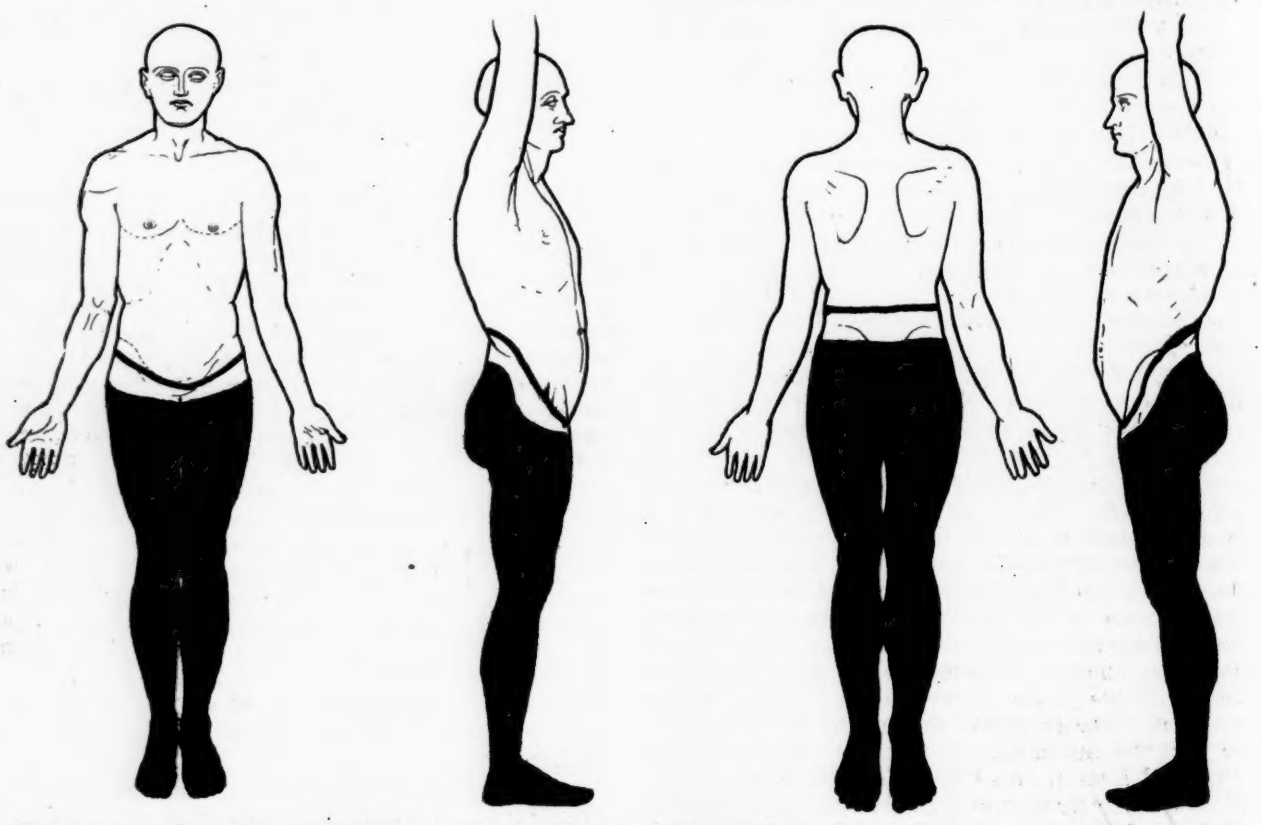
In my experience incorrect diagnoses are ordinarily made because of failure to recognize: 1, that pain, tenderness, paresis or paralysis, hyperesthesia, anesthesia, incoördination, tremor, dizziness, tachycardia, syncopal attacks, vomiting, loss of weight even to emaciation, impaired speech, convulsions and poor vision, are not necessarily indications of organic disease, no matter how continuous or how long continued the symptoms may be; or 2, that atrophy, reaction of degeneration, incontinence of urine or feces, retention of urine (generally), loss of deep reflexes, bedsores, Babinski's sign, ocular or facial paralysis, optic atrophy or neuritis, hemianopia, glossy skin, rapid (five or six per second) and uniform ankle clonus, impaired pupillary reaction, semi-erection of penis, and anesthesia corresponding exactly to a peripheral nerve or spinal segment, indicate organic disease.

In addition, it may be remarked that the nature and general extent of an accident, presence, absence or location of external lesions and even the duration of unconsciousness are most unreliable data upon which to base a diagnosis.

There are certain symptoms which demonstrate beyond a peradventure the presence of functional disease. They are, on the whole, such signs as belong to hysteria, the symptoms of neurasthenia and hypochondria being so purely subjective as not to be demonstrative. The catalogue of these distinctive traits is rather long and I shall take time to speak of only two, as they may be elicited at a single examination and their purport grasped even by a layman.

1. The anesthesia or hyperesthesia of a traumatic neurosis may ordinarily be shown to be limited by a sharply-cut border. On anatomical grounds this is impossible in organic affections. The distribution of one sensory nerve always encroaches upon the territory of the adjoining nerves. Obviously, then, when sensory nerves are paralyzed, the transition from anesthetic to normal area will be more or less gradual. This overlapping of sensory supply applies even to the two halves of the body, the nerve filaments of one side crossing the median line a short distance. Hence, in hemianesthesia from organic disease, some impairment of sensation is demonstrable beyond the middle line, while, on the anesthetic side, sensation is better close to the median line. In nearly every organic case it is impossible to determine exactly where anesthesia ends and normal sensation begins. In functional disease, the distance between complete anesthesia or analgesia and normal sensation is often no more than 1/16 or 1/32 of an inch. To bring this out, considerable care and patience are sometimes necessary, but, once demonstrated, the proof of functional disease is conclusive. Naturally, the patient must not see the procedure. The best way is to touch or prick alternately the anesthetic (or analgesic) area and the normal surface, at first wide of the dividing line, then closer, finally narrowing the distance down to the minimum. It is astonishing how close a pin prick which is not felt at all may be to a line where sensation is perfect. The demonstration is often facilitated by a little suggestion; for instance, using throughout the examination the expressions "up there" and "down here," or "over there" and "over here" to convey to the patient the idea that the pricks or touches are considerably separated, even when they have become very close together.

2. The line of demarcation between normal sensation and anesthesia rapidly shifts. This demonstration also requires a little care. The border line having been definitely determined (of course, unseen by the patient), it is lightly marked with a pencil, and the examiner directs his attention elsewhere—to heart, lungs, eyes, etc., for five or ten minutes. He then returns to the anesthetic region, the patient still blindfolded, and repeats the former examination for determining the limit of the area. Or he may locate it by simply approaching it by slow, successive touches or pricks rather close together. The dividing line will still be found to be sharply defined, but to have moved one to six inches from its former location. Evidently such shifting can occur only in functional disease. Figures 1 to 10 are taken from illustrative cases.

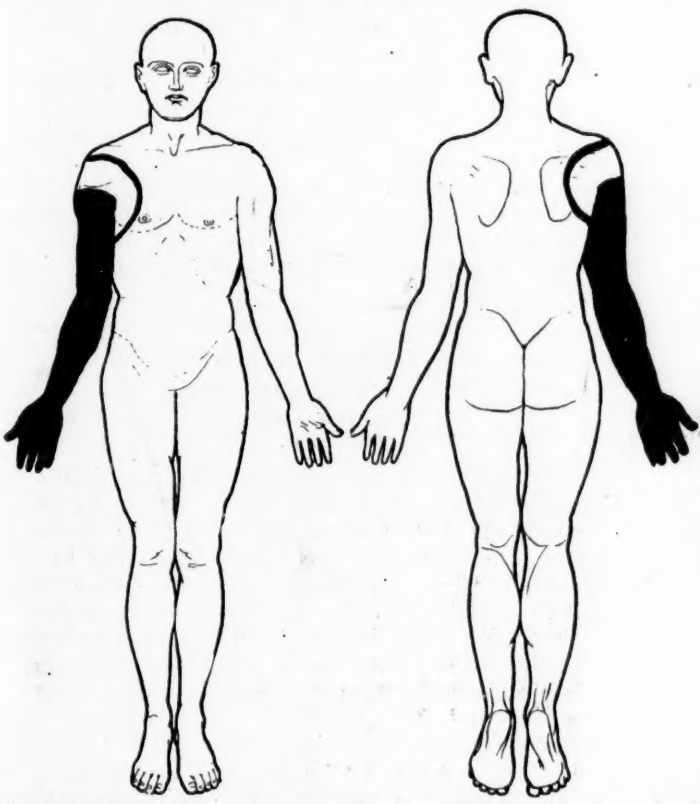


Figures 1 to 4.—Case of general shaking up and bruise of back in railway accident. Black indicates area of complete anesthesia and analgesia. Line indicates extent to which border shifted within ten minutes.

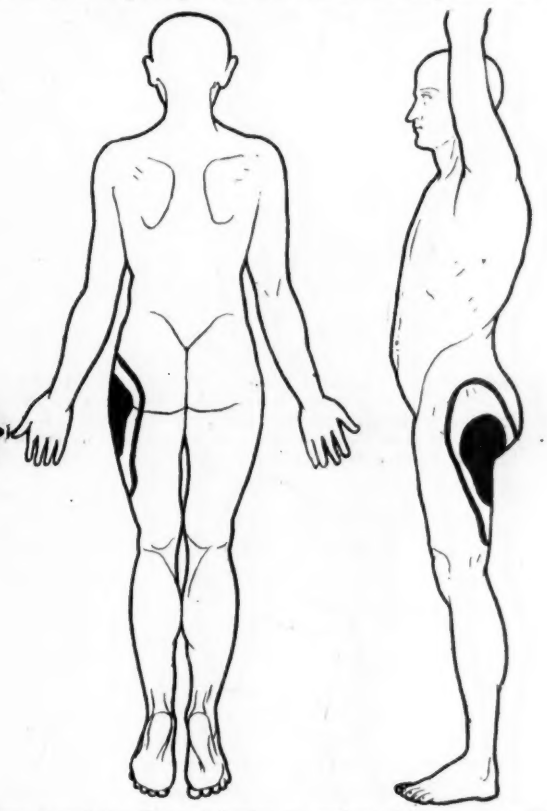
As before stated, these two striking traits of functional sensory disorder pertain to hyperesthesia as well as anesthesia and are particularly useful in the examination of the tender backs or spines so very frequent after accidents. The tender spot or the extent of a tender stretch is exactly located, defined and marked. After ten minutes or more the back is re-examined. The observer begins at the upper or lower end of the spinal column and with a finger or rubber-tipped pencil, progresses downward or upward, as the case may be, pressing successively over the spinous processes as he proceeds. In due time he reaches the tender ones, but they are not where they were. That is, they are not the same ones

Let us suppose that the first time the 8th, 9th and 10th dorsal spines were tender; it will now be the 6th, 7th and 8th, or the 10th, 11th and 12th. Sometimes the shifting is much greater than this. In any event, it shows that the tenderness is purely functional and not caused by injury of the spinal cord, membranes, nerve roots, vertebræ or ligaments.

I can not too earnestly insist upon the importance of an early and positive diagnosis, because then may be early instituted the correct treatment. Prompt and proper treatment is quite as important in functional as in organic cases. A traumatic neurosis is never produced complete and at once by an accident. It were as natural for people to be born like Athene springing from the head of Jove perfect in the plenitude of her powers. Hysteria is never born—it develops; neurasthenia can not be produced in a day; hypochondria is a thing of growth, and a traumatic neurosis is always the product of evolution. Once evolved, it is a hard-grained disease, difficult to manage and often of serious prognosis, but if detected in the germ the growth may be effectually checked and the patient saved years of suffering.



Figures 5 and 6.—Case of injury to arm by machinery. Black indicates anesthesia, and line the extent to which it shifted during examination.



Figures 7 and 8.—Case of bruise in region of hip from a fall. Black indicates area of hyperesthesia; the line shows border of hyperesthetic area a few minutes later.

The mere fact of accident or injury never of itself causes a neurosis—be the injury of whatsoever part of the body, and be it fracture, dislocation, laceration, burn, scald, scratch, contusion, hemorrhage, strain, sprain, electric shock, or that much abused, indeterminate derangement called concussion. To the physical ictus of a traumatism is nearly always added a simultaneous mental shock, but of vastly greater effect than this are a thousand and one autopsychic and heteropsychic influences. Nothing short of painstaking study will reveal the countless multitude and immeasurable effect of these little forces. To a well-balanced and normally indifferent person it is almost incredible how often and how intensely one of these patients will repeat to himself the possible consequences of a trifling injury; how he will review all the minutiæ connected with the accident and as minutely scan the future; how he will scrutinize, classify, analyze and synthetize his symptoms. Equally remarkable is the weight he gives to the opinions and advice of his lay friends, and even to the literature of almanac and quack advertiser. Not at all remarkable is the importance attached to the dictum of his physician, but most remarkable is the fact that all his observations, all that he hears and all his conclusions tend to make him worse and to convince him of the gravity of his condition. All this, slowly or rapidly, in accordance with his plasticity, educates him into an abnormal condition. Pretty soon this process of educational evolution becomes automatic, subconscious if you please, and with this stage is already reached the stage of difficult treatment. When the patient says, and thinks, that he has got the accident pretty well out of his mind, that he is trying to "throw it off," that it might have been worse; when he tends to make light of some of his symptoms, but always mentions them; when he makes strenuous efforts to overcome trifles; when he settles into a cheerful resignation; when he does these things but fails to improve, we may be sure that in his innermost consciousness the conception of irreparable injury is ever with him and is slowly crystallizing him into a state of invalidism.

In this connection I need only mention the diabolical effects of litigation, particularly deferred or prolonged litigation. Not only is the patient compelled to specify every pain, distress and disability, and to do this repeatedly, but he must hear the recital of witnesses as to the dire disaster and its deplorable effect upon him. Under the circumstances it is only human nature to emphasize, not to say exaggerate, all symptoms. Furthermore,

he, his friends and lawyers instinctively combat any circumstance or statement tending to minimize his suffering. And finally, he is taught and teaches himself to look upon the future as one long valley of the shadow of death, ending only in death itself, for on the blackness of the future depends the brightness of the verdict.

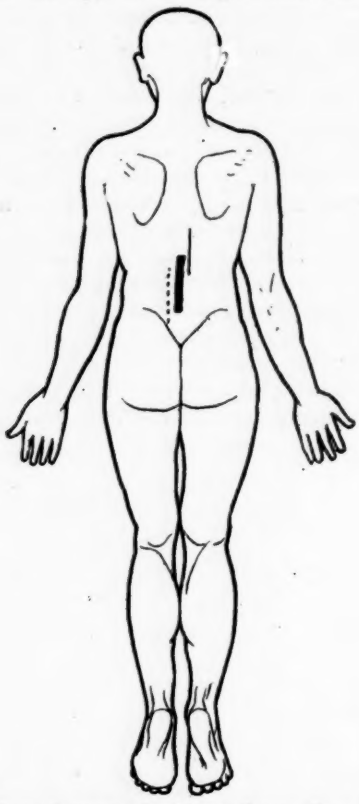


Figure 9.—Case of general bruising—thrown from buggy by collision. Heavy line indicates tenderness along spine. Light line indicates same when examined from below upward; dotted line when examined from above downward. Light and dotted lines are to be thought of as occupying the median line.

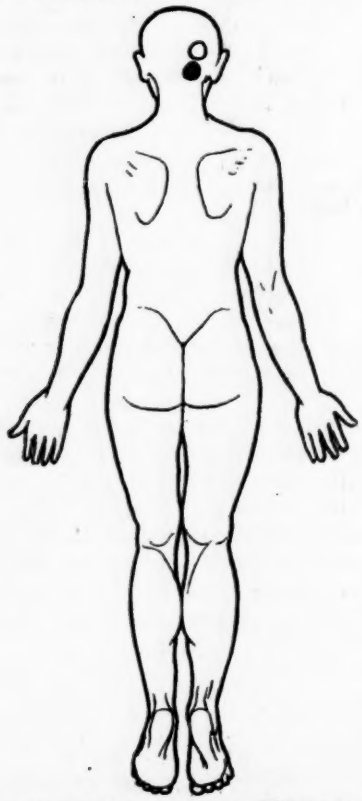


Figure 10.—Case of railway accident. Black spot indicates location of excessive tenderness, circle shows place to which it shifted within a few minutes.

How important, then, is the prophylactic treatment of these poor people. They are to be protected from ignorant doctors, foolish friends, designing lawyers and their susceptible selves. It is our duty—since it is generally within our power—to give them this protection; protection from ignorance by being not ignorant; protection from friends, first by perfectly understanding the case, then by clear and positive statements to the patient, and, last, by preventing or combating the officious suggestions of meddlesome well-meaners; protection from litigation by promoting prompt and definite settlement; protection from the patient himself by getting him out and at work as soon as possible, by begetting a wholesome and cheerful frame of mind and by getting the accident and all that pertained to it completely out of his life.

Because of the foregoing, in every case in which the question of "damages" arises or the possibility of litigation is present, the physician should advise both sides alike to make an immediate and final settlement.

A consideration of the treatment of the fully developed neuroses would carry me quite beyond a reasonable time limit. The proper methods to be employed may readily be inferred from the foregoing remarks and from our knowledge of the best means of handling the fundamental neuroses, but the successful employment of these methods requires the utmost tact, patience and energy—in short, the finest of medical technique.

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NOTES ON SMALLPOX.

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I can not believe that there are many physicians who any longer entertain a doubt as to the genuineness of the mild smallpox that has prevailed to so general an extent during the past two years. The many valuable papers on this subject recently printed in THE JOURNAL should convince even Dr. Happel, whom we may honor as the leader of the doubters, and whose papers have no doubt led many inexperienced physicians into error.

Having served for eleven years as Health Officer of Wheeling, and observed several hundred cases of smallpox of every possible variety, and through a period of nearly thirty years, I wish to give my opinion, in the most emphatic way possible, that our recent smallpox, of which this city has had about eighty cases, was no new disease. In every outbreak of smallpox extremely mild cases occur, cases that are atypical and calculated to deceive physicians of limited experience. In the recent epidemic there occurred very many such cases, very few typical ones, and some unusual varieties, which defied positive diagnosis by the most experienced, unless watched closely for days. In my experience these most resembled varicella; but whereas the vesicles of varicella dry up in four or five days at most, that of even these mildest cases of smallpox ran a course at least twice as long.

Last November smallpox was brought to this city by colored convalescents from an infected camp of men working on a new railroad near Clarksburg. Within a few days fourteen colored men were taken down with it, all of whom contracted it from the same origin, in a saloon and gambling room conducted by a colored man, and patronized almost exclusively by colored men. All

were treated by me in the Municipal Hospital. Not one had ever been vaccinated, and yet there were all grades of severity exhibited. One man was in the hospital but six days, and was dismissed within ten days of the first appearance of the eruption, not having more than twenty vesicles on his whole person. Had this been an isolated case no physician could possibly have made a positive diagnosis, unless the history should have determined it. Yet in this same group of cases there was a confluent case, with a temperature of 108.5°, observed by myself at 4 p. m., and by the nurse at 8 p. m., taken in the mouth with a thermometer whose correctness I have verified. This patient recovered. Later I had a hemorrhagic case, which recovered. Were these last two cases variola vera? Even Dr. Happel would say, "Yes." So, therefore, were all the others, which represented all degrees of severity, although nearly all were very mild.

How was it in other localities? Called 70 miles away to determine the nature of an eruptive disease in an infant, I found a well-marked case of smallpox concerning which two physicians had differed; one called it chicken-pox, which it in no way resembled. A week later it proved fatal, and both parents contracted smallpox.

Dr. A. Wilson and myself were called to a mining town in Ohio, to determine a dispute between physicians and advise concerning an outbreak of an eruptive disease. We were taken to the house of one miner lying dead, after an illness of but three or four days. The appearance of the body and the history of the case left no doubt that the man had died of malignant smallpox. On the street we met another miner, just from his work in the mines, with an abundant variolous eruption, at about the tenth or eleventh day, and yet never ill enough to stop work for a single day. We found that fifteen cases had occurred, a number of the patients adults, and all had passed as varicella until a death aroused suspicions. Did the dead man have variola vera and all the remainder have varicella? A number of these cases were typical in appearance, although quite mild. In over thirty years' practice I have seen but one case of chicken-pox in an adult. I therefore hold that any acute eruptive disease in the adult that in any way resembles either chicken-pox or smallpox, should receive the same sanitary eare as the latter disease, until its true nature is determined by close observation and time.

My observations here lead me to the conclusion that but little infection attends these very mild cases of smallpox. The primary fever is mild, sometimes passing unobserved; the secondary fever is often absent, and in many cases the eruption is very sparse, and it dries up without passing through the usual stages. As a consequence, a patient is less apt than in severe cases to convey the disease to exposed persons. Otherwise this city must have had hundreds of cases, for a number of patients strolled through our streets, frequenting saloons and other crowded resorts, for two to ten days after the eruption appeared. One man slept in a family of five, three of whom were unvaccinated children, for eleven days after the appearance of the eruption, and spent every evening at a social club-house. Not a single case resulted. One colored barber shaved his patrons for two days, and another for five days after the eruption appeared, and no case resulted. It is scarcely possible that all persons thus exposed had been vaccinated.

Only one of my patients made any claim to having been vaccinated, and I found no evidence of it in this case, one of my worst, which was in the hospital four weeks.

But one death in 76 cases occurred, and this patient was an infant. Why were the cases so mild? Dr. Hyde, in his paper in *Popular Science Monthy,* expresses the belief that the mildness of the cases in our recent epidemic was due to an immunity acquired by our people by inheritance, several past generations having been vaccinated. His own language is: "When it (the smallpox) gathered to itself the added power by which it was enabled to spread from community to community, its extension was not through a population virgin of protection by previous vaccination, or the children of the vaccinated." That a degree of immunity may be conferred by inheritance I am not prepared to deny, although this theory would be difficult to prove. The facts in reference to our recent epidemic can not be correctly held to support it in any way. After this smallpox entered the country from Cuba, it extended rapidly through the former slave-holding states, attacking chiefly the colored race, many thousands of whom were its subjects. These colored people in this city and state, and I think all through the South, are emphatically "virgin of protection by previous vaccination." Neither the present nor past generations of them have been vaccinated at all generally, and hence there was no modifying influence by inheritance. And yet, so far as my personal observation extended, the cases were quite as mild in the colored race as in the white. My very mildest case was in an unvaccinated black man.

Again, if there has recently been any such modifying influence by inheritance, as Dr. Hyde claims, it should have shown itself just as distinctly five or more years ago. But such was not the case. In 1895 and 1896 nearly 300 cases of smallpox occurred in this city and vicinity, but the cases were by no means of such mild type as those recently observed, and quite a number of deaths occurred.

No one has yet satisfactorily accounted for the mildness of our recent cases of variola. Has any explanation been presented of the recent mildness of typhoid fever, diphtheria and scarlatina? I am quite sure that none of these diseases occurs in this locality with the same virulence as in former years. No inherited modifying influence can account for this fact, and I think we will have to search further before we can explain why our late smallpox has been so mild.

As a sanitary officer, I have encountered much opposition to vaccination, not a few parents withdrawing their children from the public schools rather than have them vaccinated. In view of this fact, which is true of every community, and considering the very little suffering and very low mortality from smallpox at present, I have very seriously doubted the wisdom of communities going to great trouble and expense in the sanitary care of this disease, virtually to protect a limited number of ignorant or bigoted persons. The mortality has been nowhere greater than 2 per cent., which is much less than that of whooping cough, the suffering from which also is so great. We can do little, and we actually do nothing, to limit the spread of the latter. Why interfere with the former, against which each family can with certainty protect itself by vaccination?

Permanganate Treatment of Noma.—A. A. Kissel reports most encouraging success with local treatment of noma, supplemented by exceptionally nourishing food and strict hygienic measures. The lesion is curetted and then irrigated with a hot solution of potassium permanganate, concluding by dusting with iodoform. His statistics published in *Khirourgia,* x, 56, confirm the benefits of this treatment.

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A QUESTION OF PRIORITY.

We are reasonably deferential to European medicine in this country, and it may be at times unreasonably so. A few noted advances in surgery have been credited to us, such as anesthesia, certain matters in abdominal surgery, etc., but as a rule only after controversy and the refutation of the assertions of the aggressive European claimants and their partisans. Brown-Séquard used to complain that Germans were constantly rediscovering French contributions to science, and in this country we may with some reason hold all Europe in a like way, as trespassing upon our own preserves of credit for additions to surgical methods and advances. One of the latest of these is to be found in Mr. Buckston Browne's article in the London *Lancet* of November 23, abstracted in this issue, in which he claims suprapubic prostatectomy as peculiarly a British contribution to surgery and gives all the credit of its origination and introduction to a British surgeon, McGill, suggesting, therefore, that it be henceforth called by his name. A review of the history of the operation shows that the removal of a prostatic obstruction to urination in an elderly man through a suprapubic incision was first performed by Dittel in Vienna in 1885, though several years earlier Billroth had removed a large myoma from the bladder of a boy by the same route. Dittel's incision was made for drainage, not for prostatectomy; the operation was not repeated by Dittel, though he did on subsequent occasions "decapitate" a middle lobe as an incident in suprapubic lithotomy. Dittel's patient died on the seventh day.

Belfield of Chicago attacked the prostate through a perineal incision in 1885; at the autopsy of a case successfully operated seven months earlier, he found that the obstruction was a tumor which could have been readily removed by suprapubic cystotomy—a fact which, he says, "induced the adoption of that incision in subsequent operations." Accordingly in June, 1886, and again in October of that year, he made a suprapubic cystotomy for the purpose of removing prostatic obstacles to urination, making a complete success in the second patient. These were unquestionably the first suprapubic prostatectomies ever planned; both were executed and recorded in society transactions[1] before the operation had been performed by anyone else, excepting only the Dittel case above mentioned.

In September, 1886, Kummell in Hamburg attempted to destroy prostatic outgrowths by sinking the cautery into them, operating through a suprapubic incision; and some months later he removed a prostatic tumor by the same route. McGill in Leeds made his first suprapubic prostatectomy in April, 1887, removing a tumor as large as a bean; upon his experience with three cases, he advised the operation as a routine measure—advice which Belfield refrained from giving. Belfield, however, stated that the suprapubic incision was often insufficient and advised the addition of the perineal boutonnière as a means of access to the prostate.

The work of McGill and his colleagues at the Leeds Infirmary was certainly the chief agency in calling the attention of surgeons to the feasibility of suprapubic prostatectomy. But when Mr. Buckston Browne calls it an "English operation" and "McGill's operation" he appears as an attorney urging a partisan argument rather than as the recorder of surgical progress. The operation was first advised, deliberately planned, and successfully executed by Belfield of Chicago and as the logical result of previous experience in perineal prostatectomy.

There are good reasons against the application of the names of individuals to a special operation or disease, not the least of which is the multiplication of synonyms which it entails through national or local pride. Some disorders like exophthalmic goiter thus carry three or four names in as many different countries. With this general objection there is a special one of injustice in attaching the name of McGill to the suprapubic operation of prostatectomy. If the operation must have a name it should be that of Belfield, who rationally conceived, carried out and published the method before anyone else. Dittel's operation was an accident.

1. Med. Rec., Aug. 21, 1886; and JOURNAL A. M. A., March 12, 1887.

ON THE EXISTENCE OF PATHOGENIC AGENTS TOO SMALL TO BE SEEN.

Studying a destructive epidemic disease among chickens, Lode and Gruber[1] of Innsbruck made the observation, which was confirmed by frequent repetition, that the specific cause, whatever its nature may be, passes through Berkefeld or Chamberland filters. Filters of this kind, it is well known, keep back all bacteria that are visible with our present means of magnifying microscopic organisms. A few years ago Loeffler and Frosh showed that the virus of foot and mouth disease also passes through such filters, the filtrates being virulent. Recently Beijerinck has demonstrated that the cause of a disease that produces spots on tobacco leaves is a contagium that passes through porcelain filters. In these interesting cases two possibilities have been considered: Either the apparently sterile filtrate contains in solution an unusually active poison or the unknown agent is so small that it passes through the pores of a filter that retains the smallest visible known

1. Centralbl. f. Bacteriologie, 1901, xxx, 593-604.

bacteria. The first possibility seems to be excluded in the case of the disease described by Lode and Gruber because of the repeated reproduction of the disease experimentally in a series of animals, indicating that the cause is one capable of multiplication. Here at least the assumption that the agent is so minute as to pass through the pores of the filters seems the more reasonable. Abbe of Jena has calculated that elements only one-tenth to one-fifth times smaller than the smallest known bacterium, the bacillus of influenza, fall below the range of visibility with the most perfectly constructed apparatus for magnification now made. As pointed out by Lode and Gruber, this second assumption is not free from difficulties. The pores of the filters are in reality much larger than the bodies held back. The real factor at work is attraction, and it seems peculiar that it should fail to operate when the limits of the visible is reached.

If there are several pathogenic organisms that possess the power of passing through porcelain and similar filters, it would be quite reasonable to assume that there exist in nature innumerable saprophytic and other forms of similar character. But of such forms we know absolutely nothing, although it might be expected that they would have made their existence known by the formation of deposits, pigments, gas and other products in the fluids which are passed through the filters and then remain free from bacteria as far as known. If these mysterious serums pass through filters it would seem to indicate that they exist in a different form from that of the ordinary, dense bacterial bodies, perhaps as semi-fluid protoplasmic masses. Lode and Gruber also suggest that in these instances the virus may be not corporeal in the ordinary sense, but a substance in solution and nevertheless endowed with the power of reproduction, which acts somewhat after the manner of enzymes and is not thereby itself consumed. But it is difficult to comprehend such substances because we are unable to compare them with known analogues. Of course it lies near at hand to offer the suggestion, as has been done before, that other diseases of infectious character but unknown cause, such as syphilis, measles, smallpox and carcinoma, are also caused by organisms which hitherto have escaped observation because they are too small to be seen. The existence of diseases of this character among animals, with which it is comparatively easy to make experiments, will undoubtedly prove to be of great aid in solving the important problems suggested in the foregoing.

THE TOE PHENOMENON OF BABINSKI.

Slight irritation of the sole of the foot is ordinarily followed by plantar flexion of the toes, particularly the four smaller; while with more marked irritation transitory plantar flexion is followed by dorsal extension, particularly in the great toe, associated with flexion of the foot, leg and thigh, and at times also of other muscles. Under certain abnormal conditions it has been found, particularly and earliest by Babinski, that slight irritation of the sole of the foot causes not plantar flexion, but dorsal extension. Under such circumstances lesions of the pyramidal tracts have almost always been found and the symptom has been considered pathognomonic of this condition. The phenomenon has, however, been observed also in connection with epileptic seizures, in cases of strychnin poisoning, in other diseases attended with exaggeration of the reflexes and also in healthy infants; while, on the other hand, it has been found wanting in cases presenting undoubted pyramidal lesions. In explanation of this reflex it has been suggested that, as a result of a lesion of the pyramidal tract, fibers are damaged that normally inhibit the action of the extensors that takes place in association with that of the flexors on irritation of the sole of the foot.

For the purpose of clearing up a number of disputed points in connection with this subject, Dr. Herman Schneider[1] undertook a study of the toe reflex in a large number of cases of various forms of disease of the nervous system and as a result of this investigation he concludes that the normal movements that occur in response to irritation of the sole of the foot are the result of two reflexes, having different seats in the central nervous system. The one, consisting in isolated plantar flexion upon slight irritation, is a cortical reflex, while the other, consisting in dorsal extension of the toes, with combined movement in the leg, on active irritation, is a spinal reflex. Failure of plantar flexion on slight irritation, with dorsal extension of the toes—that is, preservation of the spinal reflex—constitutes the Babinski sign. That this can be induced with much greater facility than normally is invariably dependent upon general exaggeration of the spinal reflexes.

The Babinski sign may be developed by interruption of the pyramidal tract, with resulting abolition of the cortical reflex. This interruption may also take place at the beginning of the tract in the motor cortex, as in cases of epilepsy. Normally, only the varying degrees of irritation necessary for the development of both reflexes allow of their differentiation. If in consequence of general exaggeration of the spinal reflexes—as by strychnin, diseases attended with exaggeration of the reflexes without a pyramidal lesion—or of conditions that increase the difficulty of developing the cortical reflex, such as mental diversion, stupor, edema, the spinal reflex can be developed as easily as the cortical reflex, or more easily, the latter may be suppressed by the dynamic preponderance of the former and appear to be entirely wanting. In this way a typical Babinski sign may be developed in the absence of a lesion of the pyramidal tract, by varying the exciting factors of each reflex. It is not possible to separate with certainty this Babinski sign attended with suppression of the cortical reflex from that associated with destruction of the cor-

1. Berliner Klin. Wochenschrift, 1901, No. 37, p. 946.

tical reflex. It is also not possible in the presence of general exaggeration of the reflexes to make a diagnosis of a pyramidal lesion from the presence of the Babinski sign alone. On the other hand, persistence of this sign without destruction of the cortical reflex is rare; a single plantar flexion in the midst of a series of dorsal extensions excludes a true Babinski sign, and as the true Babinski sign is frequently, almost always, associated with a lesion of the pyramidal tract, the sign can be employed practically as a means of differentiation between the lesions of the pyramidal tract and clinical conditions simulating them.

TYROSINASE, A FERMENT PRODUCING A PIGMENT RESEMBLING MELANIN.

When the freshly drawn juices of certain plants are allowed to stand for a short time exposed to air their color turns to an intense black. It is by such a process as this that the lacquers used in oriental countries are produced. Bertrand found a few years ago that this change in color is due to the action of an oxidizing ferment, laccase, upon a substance that is oxidized with great readiness, laccol, and which is chemically a member of the aromatic series. Laccase has since been shown capable of oxidizing many other aromatic substances. Similar oxidizing ferments seem to be present in many and varied forms of plants, among them the mushrooms. In mushrooms Bertrand found, besides a ferment resembling laccase, one whose oxidizing power was limited to a specific action on tyrosin, and therefore called tyrosinase. Beet roots and the dahlia also contain tyrosinase.

Otto v. Fürth and Hugo Schneider[1] have recently investigated the occurrence of tyrosinase in the animal kingdom, and the relation it bears to the production of melanin. It was found to be a regular ingredient of the hemolymph of insects, and probably explains the darkening of the juices of such animals when exposed to air. In the blood of certain crayfish a similar but less active ferment was found. Most interesting was the observation that the lining membrane of the ink sacs from which the cephalopods throw out their inky secretion, is able to produce a black color when placed in a solution of tyrosin. A chemical study of the black pigment obtained by allowing tyrosinase to act upon a solution of pure tyrosin showed it to correspond in many respects to the ordinary melanins. Most important in the eyes of these investigators is the fact that the ratio of the carbon, hydrogen and nitrogen in this artificial pigment is the same as the ratio of the same elements in the group of pigments usually considered as melanins, including the black pigment of hair, skin, choroid and melanotic tumors, the sepia pigment of cuttlefish, and also the artificial pigments produced by decomposition of proteids. They suggest that tyrosinase is present wherever pigments are found in the tissues, and that the pigments are produced by action of this ferment on tyrosin. They account for the presence of tyrosin by the observation of Salkowski that tyrosin is one of the products of the self-digestion of tissues. Hence, in the production of melanin a double ferment process may occur; by an autolytic ferment an aromatic substance is derived from proteid, and this substance is converted by the tyrosinase into melanin. Against this simple explanation we must place the following fact: All analyses have shown that these various melanins, with the single exception of that from the choroid, contain sulphur in considerable proportions, as high as 10 per cent. in some cases. As tyrosin contains no sulphur it alone can not be the source of these melanins. This difficulty seems not to have occurred to v. Fürth and Schneider. However, the entire subject of pigment formation is so obscure that these observations are of greatest interest, and that so resistant and unalterable a substance as melanin can be produced by a ferment is in itself striking. In addition, it illustrates the wide possibilities of the newly reopened study of enzymes and their activities.

1. Beiträge z. Chem. Physiol. u. Pathol., 1901, i, 229.

PHYSICAL CULTURE AND MEDICINE.

At the present time perhaps more than at any former period in our modern civilization the public has grasped the idea of physical culture and its advantages. The notion that symmetrical development of the body is a safeguard against disease and a cure for existing disorders is widespread and, as Dr. Newman points out in a recently published paper,[1] is being exploited in all quarters as the grand cure-all to the disparagement of drugs and doctors. The injustice of it is, as he says, that so broad a truth, taught for so many years by our profession, should just now "be hailed as a new discovery and the credit given to mercenary outsiders." The fault is nevertheless largely our own; while we have prescribed exercise, massage, etc., in a general way we have left the details and even the oversight of them to others as unworthy of our attention. In this we not only sacrifice our own interests but those of our patients by allowing them to fall into the hands of those who, while recognizing a valuable principle that we too much ignore, are yet too ignorant and narrow to be of use in the times of real danger. Medicine suffers in public estimation and gross quackery thrives, as anyone can see by scanning their advertisements and the special publications of these extra medical practitioners. It is high time, as Newman says, that the medical profession gave more attention to the physical education and development of the patients and practiced its methods. The public has the notion that the practice of medicine is merely the giving of drugs and there is danger of this getting into our laws through ignorant judicial decisions and exceptions in the legislative enactments regarding the practice of medicine. This popular delusion should be counteracted by the general utilization by

1. Plexus, November, 1901, pp. 223-228.

our profession of whatever is scientifically and therapeutically of value in every method of physical training. We should not merely recommend physical exercises, massage, etc., but should follow up our advice and see that these are administered according to our recommendations and by operators in whom we can depend if we have to trust them out of our own hands.

It is not as a business proposition that these recommendations are made; the medical profession is, as the author of the address quoted puts it, about as money-wise in its practice "as would be a liquor-dealers' association for the promotion of total abstinence;" it is a part of our duty as guardians of the public health and as upholders of scientific truth against the attacks of charlatanry and general dangerous impositions. We should equip ourselves with every aid for this grand work, and while the advice here quoted was given especially to those starting out in their medical careers, it is none the less suitable to many others who are not yet too old to learn. A further suggestion made is that there should be thorough instruction given in all departments of physical culture in medical schools, so that the graduate can not only know how to personally direct treatments, but to instruct his patients in what is safe and advantageous to be left to them to do, and it is none the less worthy of being adopted. It is to be hoped that the time will come when this suggestion will be thoroughly followed out by all our medical colleges.

FEEING THE NURSE.

Evidently things are getting in bad shape in England, if we are to believe the statement made by a correspondent in a recent number of *The Lancet*. There are rumors that there is a division of the fee among some of the members of the profession here, but this division is between the surgon or the consultant and the family physician of the patient. On the other side, however, they seem to have gone one better and a division of the fee is made with the nurse. According to the correspondent, certain medical men over there are paying sums from a shilling to half the confinement fee, or more, to the nurses in attendance, who, to use their own words, make their living from "following the doctors." This tipping of the nurses is done with the hope that the recipient of the fee will recommend the doctor to future patients and, in other words, act as his drummer. As *The Lancet* editorially comments, the probability is that things are not quite as bad as this correspondent makes them out to be, even in England, where tipping is such a common every-day and every-where affair.

AWARDS OF THE NOBEL PRIZES.

Of the five awards of the Nobel prizes four are of interest to the medical profession, namely, the award to Dr. Henri Dunant, originator of the Red Cross; that to Professor Roentgen, discoverer of the *x*-rays; that to Van't Hoff, the chemist, and that to Behring for the discovery of antitoxin. No one will contest the merits of the first, nor of the second and third, though Roentgen's discovery was an accident and had been very nearly achieved by other scientific workers. It is a pity, however, that the award for the discovery of antitoxin had to go to one whose scientific and medical merits are marred by the unscientific and commercial spirit that led him to seek exclusive patent rights for his discoeries. Had Kitasato, his co-worker and co-discoverer, been remembered, it would have given more general satisfaction to the medical profession. Van't Hoff, it will be remembered, was in this country last spring and delivered a course of lectures at the University of Chicago, receiving at the same time the degree of LL.D. from that institution.

THE ETIOLOGY OF HAY FEVER.

The popularly accepted theory of the etiology of hay fever places the responsibility for this annoying disease upon vegetable pollen. The exact manner in which pollen causes hay fever does not seem to be cleared up. Recent investigations by Heymann and Matzuschita[1] are calculated to throw some doubt upon the correctness of the pollen theory, because in a careful examination of the nasal contents of several hay fever sufferers, they failed to find much if any pollen present. They point out further that in certain experiments by Blackley and others only temporary irritative phenomena were induced by the introduction into the nose of much larger quantities of pollen than ever can take place under natural conditions, because the quantity of pollen in the air at the most suitable season and in the most suitable places is not very great. Heymann and Matzuschita made the observation that the number of streptococci in the nasal secretion of hay fever patients greatly exceeds that in the secretion of normal persons. Often streptococci were present in pure cultures in the case of hay fever sufferers. Now, the bacteria found upon pollen in nature did not at all support the plausible inference that pollen might serve as the carrier of the streptococci; for streptococci were never found on free pollen. While there are not enough data on hand to permit the assignment of an etiologic rôle to the streptococci found in the nasal cavities of hay fever patients, these observations certainly tend to compromise the pollen theory of hay fever and should stimulate to renewed investigations of this interesting malady.

INSURANCE AGAINST MALPRACTICE SUITS.

According to the ruling of the State Insurance Commission of Minnesota, general casualty indemnity companies may write contracts insuring physicians against loss from damage suits for malpractice. This is a new feature of insurance, but it seems to have become prominent elsewhere than in Minnesota. A test case in Massachusetts was the ground of the state official's decision; he is said to have expressed the opinion that such protection is needed not so much by inexperienced and unskilful physicians as by the best and most successful ones as a safeguard against blackmail. In some sections damage suits against physicians and hospitals have become so frequent that the practice of medicine, and more especially surgery, has become so perilous to the pocket

1. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxviii, 495-499.

that some good operators have thought of giving up practice. The general public has a natural prejudice in favor of an alleged injured person and many unjust verdicts have been given by juries. It has also been considered contrary to public policy to put any limitations to such prosecutions or even to permit insurance against them. It would, however, be still more against public policy to allow honest surgery to be discouraged by facilitating or encouraging blackmail, and this is what the popular prejudice tends to do. A surgical operation or the medical treatment of a case depends for success on too many contingencies beyond the personal control of the practitioner to make their outcome a certainty in any particular case. An unfortunate outcome is, therefore, as it was held in the Massachusetts decision, to be considered an accident in the absence of proof to the contrary, and therefore is legitimately insured against by a casualty insurance company. It is possible that this will be a more frequent recourse of physicians, especially surgeons in some sections, if malpractice suits continue as popular as they have been in the past. The question seems to have been a new one in Minnesota, and it is satisfactory that the supposed legal objections at first raised to this kind of insurance were found invalidated by good legal precedents. Would it be practicable and advisable for the state societies or the AMERICAN MEDICAL ASSOCIATION to take up this work, and such profits as may accrue be kept in the profession, and not be allowed to outside companies?

CAMP-FOLLOWERS OF SCIENCE.

It was prophesied when the *x*-rays were first discovered that they would be exploited by quacks, as there is just that element of mystery and semi-miracle in them that takes in the credulous. We could not well anticipate their real therapeutic value, and we can not say that it has even yet been fully demonstrated. It does appear, however, that they have a certain decided influence on living tissues, and the suggestion is a natural one that this can be applied to a therapeutic end. The success of the Finsen light treatment is also suggestive in this connection. Following out this idea some physicians have experimented with the therapeutic application of these rays and have reported encouraging results in cases of superficial malignant growths, while not claiming any more than logical scientific deduction can allow. There is, however, a class of men, few of them it is satisfactory to say, in the regular medical profession, who are a sort of camp-followers of science, seeking opportunities to pick up something out of new discoveries, or old ones still prominent in the public eye, that they can utilize for personal profit or notoriety. Some of these are comparatively innocent in their methods; they are mere vulgarizers, incompetent ones often, of scientific facts. Others, however, are less unobjectionable, and some recent instances of this will occur to anyone. One or two of the latest have originated in Chicago and have lately taken up space in the daily papers throughout the country, and also, it is reported, in Europe, with alleged claims to cure deep-seated cancers and to destroy all germs by the *x*-ray. It is easy to report cures of anything the existence of which depends upon one's personal diagnosis and statement, if one is unscrupulous enough, and that sort of thing finds many believers. It is another thing, however, to demonstrate them to scientific observers; therefore this kind of discoverer utilizes the daily press which finds his alleged achievements well suited to its sensational needs. What the *x*-rays can do in therapeutics has yet to be shown; the little we know is promising, but no man can truly say that anything more than a limited utility has been proved for them. Simple faith is a beautiful thing in some ways, but in alleged science of the newspapers and especially in the announcement of this sort of medical progress, a healthy skepticism is a better thing. The credulity that formerly exercised itself on ghosts and immaterial things is in this age of discovery lending itself to the fables of pseudo-scientists and often with even worse results.

Medical News.

ARIZONA.

The Territorial Board of Medical Examiners met at Phoenix, November 6, and examined eight candidates.

Dr. Henry J. Otto, of New Orleans, La., has located at Prescott.——Dr. Charles H. Jones, Tempe, who became a member of the Local Board of Health at the time of the smallpox epidemic, has resigned, as the objects for what his services were required have been carried out.

Sanitary Regulations.—Florence has passed an ordinance prescribing regulations for the prevention, limitation and quarantine of contagious and infectious diseases and especially smallpox.——Prescott protects its health by an ordinance prescribing reports of all cases of typhoid fever or tuberculosis; the disinfection of rooms occupied by consumptives; prohibiting expectoration on the ground or sidewalks; regulating the sale of second-hand goods and providing that goods which have been in possession of consumptives be fumigated, and further providing penalties for violation of this ordinance.

A Mecca for Consumptives.—Governor Murphy, in his annual report, insists that the time has come to afford some protection to that part of the population under his jurisdiction in normal conditions of health, and that measures should be taken to separate the consumptives and invalids who visit the territory in the hope of isolation from the residents who are well. He says that Arizona has become a veritable Mecca for consumptives and tuberculous invalids. The dry, salubrious climate of the territory has made it a sanitarium of world-wide reputation, and the southern portion is fast becoming an asylum for the unfortunate people afflicted with pulmonary ills. North and northeast of Phoenix have arisen villages of tents, populated by health seekers who spend their days on horseback and their nights where the unconfined and life-giving air can best reach them. He maintains that, while in the interest of humanity no restraint should be placed on the sick seeking health in Arizona, a law should be adopted that would require segregation and isolation of the afflicted for the protection of the well.

CALIFORNIA.

Communicable Diseases.—Smallpox has appeared near Churntown, where three cases are reported.——Scarlet fever is epidemic at Fruitvale and the public schools have been closed.

Hospital Staff.—The following have been elected on the regular visiting staff of St. Luke's Hospital, San Francisco, for the ensuing year: Drs. Curtis G. Kenyon, Harry M. Sherman, and Charles B. Brigham, surgeons; Drs. Washington Dodge, Clark J. Burnham and George H. Evans, physicians; Drs. Samuel G. Boyd and Charles A. von Hoffmann, gynecologists.

A "strange disease" resembling smallpox is puzzling those physicians of the Centerville district who try to diagnose it as anything except smallpox. Dr. Harry W. Emerson, health officer, declared it to be modified smallpox.

CONNECTICUT.

The **State Board of Medical Examiners,** at its November session in New Haven, examined 25 applicants for license to practice, three of whom were women.

Litchfield County Hospital.—The new county hospital at Winsted is now practically completed except the furnishing. It will be ready to receive patients by the first of the year. The total cost of the hospital, not including the land, will be about $75,000, of which $30,000 has been provided by the state.

Mortality and Morbidity.—During October 1062 deaths occurred in the state, an annual death-rate of 14 per 1000. Of these 173, or 16.3 per cent., were from infectious diseases. Infectious disease cases were reported as follows during the month; Smallpox, 2; measles, 5; scarlet fever, 208; diphtheria, 176; whooping cough, 44; typhoid fever, 156; and consumption, 7 cases.

DISTRICT OF COLUMBIA.

The hygienic laboratory of the Marine-Hospital Service will soon be erected, as the $36,000 authorized to be expended for this purpose is now available and the contract is about to be let.

Dr. **William A. Warfield,** Washington, has been made surgeon-in-chief of the Freedmen's Hospital. He has been holding the office temporarily since the resignation of Dr. Austin M. Curtis.

Mortuary Statistics.—For the year ended June 30, there were 6087 deaths in the District, 3430 white and 2657 colored. The annual death-rate was 21.83 per 1000, for whites 17.82 and for colored 30.73. Both rates are in excess of those for the preceding year. The report urges strongly the desirability of medical inspection in the public shools.

GEORGIA.

Smallpox has broken out in a negro settlement ten miles from Athens, where 18 cases are reported.

State Sanatorium Trustees.—Dr. Eugene Foster, Augusta, has been appointed chairman of the Board of Trustees of this institution, and Drs. William S. Elkin, Atlanta, and George D. Case, Baldwin, members of the board.

Mental Science Healers Indicted.—Mrs. Helen William Post, Col. C. C. Post, her husband, and Charles F. Burgman, her son-in-law, have been indicted by the Federal grand jury in Macon, Ga., for using the United States mails for fraudulent purposes in their "mental science absent treatment."

Medical Legislation.—The Macon Medical Society has appointed a committee, Drs. Edward G. Ferguson, Nathaniel T. Carswell and Robert B. Barron, to prepare bills for the legislature, covering the following points: The plan is to have all coroners in Georgia practicing physicians. All proprietary medicines brought into the state must be labeled so that the public can know the ingredients and the proportion of each ingredient. Lunacy juries shall consist of three physicians appointed by the ordinary; one physician must examine the subject on a separate day, and all three shall examine him on the fourth day and make a verdict. No poisonous drug or narcotic, such as morphin, etc., shall be sold without a physician's prescription.

ILLINOIS.

St. Joseph's Hospital, Elgin, will be ready to open the latter part of this month.

New Hospital for Macomb.—The sisters of St. Francis have purchased five acres of land on the outskirts of Macomb, on which to erect a Catholic hospital and sanatorium.

Alton Children Must Be Vaccinated.—The health officer of Alton, acting under authority of the State Board of Health, has issued notice that all children shall be vaccinated without delay.

Brokaw Hospital Completed.—The addition to Brokaw Hospital, Bloomington, has been completed and accepted by the trustees. About a dozen rooms thus far have been furnished by Bloomington citizens and are ready for occupancy.

Marshall Must Go.—Judge Moffatt of Bloomington has dissolved the injunction issued at the instance of Dr. James A. Marshall, house physician at the State Reformatory, Pontiac, to restrain the board of trustees of the institution from ousting him from his position.

Magnetic Healer Found Not Guilty.—A magnetic healer of Lincoln, a graduate of the Chicago School of Psychology and the American School of Magnetic Healing, who was tried for violating the state law regulating the practice of medicine and surgery, was found not guilty by the jury.

Scarlet fever at Washington has closed two rooms of the public school.——The disease is spreading rapidly at Georgetown and the schools will not be re-opened until all danger is past. There are now more than 40 cases with 4 deaths.——Scarlet fever is epidemic at Clinton and the closing of the public schools is being considered.

Smallpox is spreading among the colored people near Rush City. It is said that there are 20 cases in that district.——Smallpox is declared to be present in Alton. The risk of communication of the disease was, as usual, greatly increased because the disease was diagnosed as chicken-pox.——Roseville has four cases communicated by an itinerant evangelist who had no faith in medicine.

Personal.—Dr. George A. Zeller, Peoria, at present serving in the Philippines, has been appointed superintendent of the hospital for the incurable insane at Peoria.——Dr. Festus Burnham, Mason City, has been appointed physician-in-charge of the Illinois Hospital for the Incurable Insane, Peoria.——Dr. William H. Maley, Galesburg, has been appointed alumnus member of the board of trustees of Kave College.——Dr. Harry R. Lemen, Upper Alton, now serving in the Philippines, will resign in May and resume practice.——Drs. Frank C. Becker and Gustave J. Bergener, La Salle, have sold their practice.——Dr. Carl J. Koontz, Galesburg, assistant examiner for the Galesburg division of the Burlington Volunteer Relief department, has been made chief examiner for the St. Louis division, with headquarters at Beardstown.——Dr. Guy G. Dowdall has purchased the practice of Dr. R. C. Fullenwider at Clinton. Dr. Fullenwider has established himself at La Salle, where he will practice.

Chicago.

Examination for Interneships at Dunning.—The competitive examination held under the auspices of the Civil Service Commission for positions on the resident medical staff of the Cook County institutions at Dunning, will be held December 16.

Damage Verdict Set Aside.—In the case of Dr. Edmund R. Moras, who was awarded a verdict of $36,000 against the West Chicago Street Railroad Company, for the loss of a hand, a new trial was granted November 30, on the ground that the verdict was excessive and gave evidence of prejudice against the defendant in the minds of the jurors.

Personal.—Dr. Fenton B. Turck has been made a corresponding member of the French Association of Urology.——Dr. Anthony K. Warner has returned from a three-months' tour of Europe.——Dr. Fred S. Crocker has resigned from the faculty of the Chicago Eye, Ear, Nose and Throat College.——Dr. John M. Moore has been awarded $10,000 damages in his suit against Oliver Sollitt, for slander.

Coroner's Cases.—The report of the coroner for the year ended November 30 showed that 4844 deaths had been investigated; 2479 inquests were held and in 1445 cases the coroner's physician made the investigation. The physician made 910 autopsies. Suicide caused 385 deaths; railway accidents, 290; falls, 206; homicide, 103; drowning, 135; asphyxiation, 60; lightning, 12; horses, 10; hydrophobia, 8; heat, 38; elevator accidents, 27; suffocation, 29; tetanus, 15; poison, 51; machinery accidents, 20; shooting, 11; and scalds, 43.

Strict Hospital Rules.—Under the new rules for the governance of the employes and internes of the Cook County Hospital, employes are prohibited from having any business relations involving patients or the dead with solicitors, undertakers or claim agents. Friends of weak, discharged patients are to be notified when the patients are discharged. Alcoholic patients are to be barred. Detailed records of property possessed by the patients are to be kept by a custodian under bonds. History sheets of each case must be carefully kept.

Chicago Lying-in Hospital and Dispensary.—The annual meeting of the Board of Directors of the Chicago Lying-in Hospital and Dispensary was held December 6. It was decided to broaden the scope of the work, and to this end the Board of Directors was increased to nine members, the Woman's board increased to twenty-seven, and the Medical board arranged so that its members are to be chosen from the three best known of the Chicago medical colleges. The physicians who are to have charge of the medical affairs are as follows: Dr. Joseph B. De Lee, of Northwestern University Medical School; Dr.

Frank B. Earle, of the College of Physicians and Surgeons, and Dr. J. Clarence Webster, of Rush Medical College.

INDIANA.

In Memory of Dr. Todd.—The Marion County Medical Society, at its last meeting, adopted resolutions testifying to the loss sustained by the Society in the death of Dr. Levi L. Todd.

Kile Memorial Opened.—On December 5, the Kile Memorial building, an addition to the Home Hospital, Lafayette, erected with funds contributed by Peter Kile, was dedicated with appropriate ceremonies.

Medical Staffs Announced.—The Indianapolis Board of Health has announced the staffs for the city hospital and the city dispensary. In selecting men for the staffs the effort has been made to treat the Indiana Medical College and the Central Medical College with equal consideration, and other schools outside the city have been given ample representation.

Personal.—Dr. Clarence V. Ward, Indianapolis, has located in Greenfield, and Dr. Clay L. Ward at New Palestine.——Dr. John M. Washburn, Kewanna, has moved to Pulaski.——Dr. Albert J. Buxton, Emporia, has changed his location to New Castle.——Dr. Oscar Heller, New Palestine, has decided to locate at Ridgeville.——Dr. John T. Shields, Seymour, has moved to Vernon.——Dr. Andrew J. Boswell, who recently moved to Elkhart from Fort Wayne, has decided to locate in South Bend.——Dr. John L. Masters, Indianapolis, lecturer on diseases of the eye, ear, nose and throat in the Central College of Physicians and Surgeons, has resigned.

November Mortality.—There were 2402 deaths in the state in November, an annual rate of 11.6 per 1000. In October there were 2614 deaths, a rate of 12.2 per 1000. In November, 1900, there were 2854 deaths, a rate of 13.8 per 1000. From important causes the deaths were: Consumption 293, typhoid fever 156, diphtheria 43, scarlet fever 6, pneumonia 206, cerebrospinal meningitis 13, influenza 10, cancer 88, diarrheal disease 56, puerperal fever 15, violence 106. The cases of smallpox reported were in the following counties: Spencer 54, Randolph 1, Switzerland 10, Jefferson 27, Adams 18, Gibson 13, Pike 1, Dearborn 6, Kosciusko 5, Wabash 5, Marshall 6, Warrick 17, Marion 3, Vanderburg 19, Perry 15. Total 193, two of which died.

IOWA.

Smallpox.—Ida Grove now has 70 cases; Pocahontas, 7 cases; Eldora, 2 cases; Stuart, 5 cases; Blackhawk County, 33 cases; Perry, 3 cases; Council Bluffs, 9 cases; Sioux City, 86 cases, and Des Moines over 100 cases.

Personal.—Dr. Alfred H. Eddy, Cherokee, has located in Oskaloosa.——Dr. Allen L. Bryant, Marshalltown, will move to McCallsburg.——Dr. Louis F. Kelling, New Liberty, has moved to Ely.——Dr. Charles E. Todd, Cherokee, has moved to California.

Children Must Be Vaccinated.—On recommendation of Dr. Nicholas C. Schlitz, city physician of Des Moines, it has been ordained that no child will be allowed to enter public or private schools in that city after Jan. 1, 1902, without evidence or a certificate of successful vaccination.

KANSAS.

Diphtheria has appeared at Whitewater. Several cases have occurred and one patient has died. The public schools have been closed.

Failure to Report Contagious Disease.—On complaint of Dr. Corban E. Judd, city physician of Topeka, a physician of that place has been charged with failure to report a case of scarlet fever within twenty-four hours as provided for by law.

Smallpox.—Secretary Swan of the State Board of Health estimates that the smallpox epidemic last winter cost the state from $75,000 to $100,000.——The State Boards of Health of Kansas and Missouri have agreed to co-operate this winter in the enforcement of quarantine regulations.——Topeka has a case of smallpox.

Personal.—Dr. William H. Fayette, Nickerson, is about to make his home in Oklahoma.——Dr. W. Plily Boal, McArthur, Ohio, has located at Ames.——Dr. Robert S. Magee, Topeka, has been seriously ill with sepsis caused by a cat-bite.——Dr. Horace G. Welsh, Hutchinson, has taken possession of his new hospital.——Dr. William J. Van Eman, Leavenworth, is alarmingly ill with blood poisoning, which has already necessitated the amputation of the right index finger.

KENTUCKY

Measles in epidemic form prevails in Covington, from 800 to 1000 cases of the disease are reported, and several deaths have occurred. The health officer has recommended that the public schools be closed.

Dr. Clark Acquitted.—Dr. W. E. Clark, Sturgis, who was convicted two years ago and sentenced to ten years' imprisonment for causing the death of a young woman by a criminal operation, was given a new trial and was acquitted, November 30.

State Board of Health.—The State Board of Health held a meeting in Louisville, December 21, the object being to consider the smallpox question. The secretary, Dr. J. N. McCormack, was instructed to issue an appeal to every county board of health to erect an eruptive hospital and be prepared to take care of smallpox should it occur. Smallpox is reported in ten counties, Bath, Breathitt, Fleming, Knox, Union, Crittenden, Owen, Washington, Fayette and Bell counties. Dr. McCormack stated that two-thirds of the population of the state outside of the cities had not been vaccinated within the time prescribed by law, and it is the intention of the Board to do all in its power to have every person in the state vaccinated. It is his belief that the situation is extremely critical. The State Board also held a joint meeting with the County Board of Health and the representatives of the city health authorities to make some arrangements in regard to the inspection of cattle and other live stock brought to the new stockyards in Louisville. The matter was referred to a committee which is to appear before the Fiscal court to make definite arrangements for the appointment of an inspector and the fixing of his salary. As the stockyards are located outside the city it is necessary for the Fiscal court to act.

LOUISIANA.

Senses Hospital.—The annual benefit performance of the French opera for the Eye, Ear, Nose and Throat Hospital will be given December 18.

Appointments.—Dr. D. Urban Maes, New Orleans, has been elected resident physician and surgeon of the Touro Infirmary for a term of one year.——Dr. George S. Bel, New Orleans, has been appointed a member of the Charity Hospital board.

To Guard Against Plague.—A conference between the Louisiana State Board of Health and the quarantine authorities of Mobile Bay was held recently in the offices of the Health Board and a new set of regulations to govern vessels coming from plague-stricken ports was adopted.

State Medical Board Election.—The State Board of Medical Examiners met at New Orleans, November 20, and elected Dr. A. Feltus Barrow, St. Francisville, president; Dr. John D. Trahan, Lafayette, vice-president, and Dr. Felix A. Larue, New Orleans, secretary and treasurer. The board will meet to hold examinations for license to practice medicine, May 1 and 2, 1902.

MARYLAND.

New Doctors.—The State Board of Medical Examiners has announced that 23 of those who took the November examination have passed.

Baltimore.

Mortality.—For the week ended November 30 there were 167 deaths, of which 19 were from consumption, 14 from pneumonia, 4 from diphtheria, 3 from typhoid fever and 2 from scarlet fever.

Emergency Boxes.—The Health Department is placing at all police stations tin boxes containing simple medical and surgical supplies, needles, bandages, cotton, etc., and a few staple remedies for use by the health wardens in emergency.

Personal.—Dr. William R. Rogers, assistant resident surgeon at the Maryland University Hospital, has resigned, and will go to Bristol, Tenn., to take charge of his father's business interests. Dr. George W. Hemmeter will succeed him.——Dr. A. G. Watson celebrated the twenty-fifth anniversary of his marriage November 26.

Smallpox.—The first case of smallpox in Baltimore since June 6 was discovered at the City Hospital, November 25, and sent to Quarantine Hospital. All the inmates of the hospital were immediately vaccinated and the building disinfected. The disease is supposed to have been contracted in Philadelphia.

Analysis of City Water.—President Ira Remsen, of the Johns Hopkins University, has made a careful analysis of the city water and fully confirms the statement recently made by

the Health Department, that it is impure and unfit for drinking without boiling. The report is to be made public this week.

The **Book and Journal Club** held its first meeting of the season November 27. There are about 100 members who pay $5 each yearly, the whole of this sum going to the purchase of new books and journals for the medical library. Dr. William Osler, chairman, entertained the Society over an hour with a description of 100 or more old medical classics purchased by him last summer and presented to the library.

A **department of orthopedic surgery** has been established at the University of Maryland Hospital under Dr. R. Tunstall Taylor as chief and Drs. Smith, McKin and Riely as assistants. Dr. Taylor will use the children's ward and also will utilize the Hospital for Crippled Children, of which he is chief surgeon. The new department is equipped with the newest apparatus for the most modern treatment of deformities, joint and bone diseases, including a large and powerful *x*-ray machine. Dr. McKim is at present abroad studying.

MASSACHUSETTS.

Smallpox in Boston.—For the week ended November 30, 112 cases of smallpox were reported with 8 deaths, making a total since August of 280 cases with 27 deaths. From November 30 to December 2, 24 new cases were reported.

Franklin County Hospital Appointments.—The medical staff of the hospital met at Greenfield and made the following assignments: December—Dr. Frank H. Zabriskie, attending, and Dr. Howe, alternate; January—Dr. George A. Cooke, Montague, attending, and Dr. Enoch G. Best, alternate; February—Dr. Mary P. Dole, attending, and Dr. Percy G. Davis, Deerfield, alternate; March—Dr. William L. Severance, attending, and Dr. Edwin C. Thorn, Deerfield, alternate; April—Dr. Frank W. Nolan, attending, and Dr. Clara M. Greenough, alternate.

Personal.—Dr. C. B. Adams, who has recently located in Pittsfield, will take charge of the pathologic department of the House of Mercy.——Dr. Paul H. Provandie, Melrose, chairman of the local board of health, has been appointed associate medical examiner for the district, which includes Melrose, Stoneham, Wilmington, Wakefield, Reading and North Reading.——Dr. E. L. Sawyer has purchased the practice of Dr. Charles R. Whitcomb, Roslindale, Boston.——Dr. George W. Dow, Lawrence, has been appointed medical examiner to succeed Dr. Octavius T. Howe.

MICHIGAN.

New Emergency Hospital.—The new emergency hospital to be erected in Detroit for the Detroit Emergency Hospital Association and the Michigan College of Medicine, will have a frontage of 120 feet. It will cost more than $40,000, and will accommodate 110 private patients, in addition to the wards.

Comparative Morbidity.—For the month of November, compared with the preceding month, influenza, pneumonia, pleuritis, diphtheria, smallpox, whooping cough, erysipelas and measles were more prevalent; and diarrhea, typhoid fever, inflammation of bowels, dysentery, cholera morbus and cholera infantum were less prevalent.

Dangerous Communicable Diseases.—Including reports by regular observers and others, cerebrospinal meningitis was reported present during November at 1 place; measles at 27 places; whooping cough at 33 places; smallpox at 92 places; diphtheria at 96 places; typhoid fever at 166 places; scarlet fever at 182 places, and consumption at 198 places.

Smallpox.—At Escanaba, 4 new cases have been reported.——At Sturgeon Bay, there are 16 cases; at Sevastapol, 26 cases, and at Wells several cases.——Muskegon is on the verge of an epidemic; nine cases have been reported.——The country around Alma has several suspicious cases.——At Interlocken a riot was threatened because several patients were removed by the health officer, from a lumber camp to the village.

Personal.—Dr. H. L. Burdeno, Delray, will locate in Dearborn.——Dr. Clark H. Fenstermacher, Marcellus, has gone to Sargent, Neb., where he will resume practice.——Dr. Samuel B. Snyder has removed from Fulton to Kalamazoo.——Dr. Louis Fleckenstein, Port Hope, has purchased the practice of Dr. T. Bennett Scott, Vernon.——Dr. Edward A. Smith, Bay City, has located in Fairgrove.——Dr. S. Edwin Cruse, for the past few years stationed at Quinnesec in charge of the Cundy Mine employes, has resigned and will practice in Iron Mountain.——Dr. J. H. Cole, of the Manistique Hospital, has been appointed chief surgeon of the Manistique and Northwestern Railway, vice Dr. Edward B. Patterson, resigned.——The physicians of Tecumseh met November 26 and passed resolutions expressive of grief and sympathy regarding the death of Dr. Lemon Barnes.——Dr. Norman J. Cramner, Fennville, has moved to Lacota.——Dr. Edward B. Patterson, Manistique, is about to make a tour in Europe.

MINNESOTA.

Diphtheria is epidemic in Forest Prairie and a number of deaths have occurred in the country between Eden Valley and Watkins.——Kimball has had a death from the disease, and the public schools have been closed.——The Health Commissioner of St. Paul has closed Assumption parish school on account of the prevalence of the disease.

Personal.—Drs. Carl J. and Madge Holman have moved from St. Clair to Mankato.——Dr. George J. Hanley resigned as health officer of Cass Lake and will be succeeded by Dr. Ray F. Whetstone, now a resident of Argyle.——Dr. James B. White, Montgomery, has removed to Faribault.——Dr. J. D. Brown, Fergus Falls, has gone to Turtle, Beltrami County, to take charge of a lumbermen's hospital there.——Dr. H. C. Stuhr, McIntosh, has purchased the practice of Dr. Ray F. Whetstone, Argyle.

Smallpox Bulletins.—Dr. Thomas F. Rodwell, Walker, found one case among the Cass Lake Indians, and quarantined the patient.——The disease is prevalent through Norman County, where 76 cases are reported.——Jackson is said to be "honeycombed" with smallpox.——Chaska has 13 cases of smallpox and the public schools have been closed.——Beltrami County has 14 cases, Clay County 14 cases, Carver County 14 cases, Kittson County 12 cases, Marshall County 11 cases, Renville County 12 cases, Minneapolis 6 cases, and St. Paul 1 case. In all 260 cases were reported during the fortnight ended December 5, an increase of 44 over the previous report.

MISSOURI.

Personal.—Dr. J. B. Darcy, Coloma, has located at Bogard.——Dr. Jasper N. Haynes, Eldorado Springs, has moved to Nevada.——Dr. W. Pernell Hall, Nickellton, has located at Lingo.

Hospital Sunday and Saturday Association.—The Hospital Saturday and Sunday Association of St. Louis made its ninth annual collection, November 30 and December 1, and collected $11,712,23 for the sick poor of the city.

Levering Hospital.—Mr. A. R. Levering has agreed to give the city of Hannibal a hospital to cost not less than $25,000 on the following conditions: The building shall be known as "The Levering Hospital"; its conduct shall be absolutely non-sectarian and non-political; and its management shall be vested in a board of control consisting of nine residents of Hannibal.

St. Louis Medical Society Sustained.—The St. Louis Court of Appeals handed down a decison December 3 in the mandamus suit of Dr. W. H. Henderson Mayfield, of the Mayfield Sanitarium, against the St. Louis Medical Society, denying a peremptory writ. The court, in its opinion, stated that the proceedings of the Committee on Ethics of the Society, which found that Dr. Mayfield had violated the rules of the Society and had him expelled, were not malevolent or biased, but were animated by a spirit of fairness and justice; that the relator was bound to the regulations of a member in the Society, and that the Committee on Ethics had the power to try the doctor, and that such bodies may advocate what rules they please, and they will bind the members. Dr. Mayfield was expelled, according to the Court of Appeals, from membership of the St. Louis Medical Society for securing and publishing letters commending his professional work, certificates of his skill and success as a doctor, which was done by issuing pamphlets to the public. Charges that he violated the medical Code of Ethics were preferred against him and the Committee on Ethics was appointed to investigate the case.

NEW YORK.

Measles is epidemic in Dunkirk. In three wards there are nearly 100 cases.

Dr. F. C. Curtis, of the State Board of Health, has gone to Rochester to investigate an outbreak of skin disease which has puzzled the local health authorities of that city.

Personal.—Dr. Fred W. Smith, Richfield Springs, will locate in Utica.——Dr. Strother W. Rice, Carthage, is about to move to St. Regis.——Dr. William H. Jessup, Buffalo, has located in Newark.

Field for Young Physician.—The removal of Dr. Benjamin W. Stearns to Binghamton from Long Eddy, leaves that field

open to some energetic young man to take up a practice of $2000 a year, with no competition in less than eight miles.

State Consumptive Hospital Site Settled.—Governor Odell has ended the long controversy over the site of the State Consumptive Hospital. The institution will be located at Raybrook in the Adirondacks. This decision will give general satisfaction.

Buffalo.

Dr. William J. O'Donnell has been appointed to the staff of St. Mary's Maternity Hospital.

Dr. Lorenzo Burrows, Jr., has been appointed ophthalmic examiner for the New York State School for the Blind at Batavia.

The Smallpox Situation.—Smallpox still continues, but on the whole it is confined to the infected Polish District, although two or three cases have appeared in widely separated localities.

New Health Commissioner.—Mayor-elect Knight has announced the appointment of Dr. Walter D. Greene, the present assistant health commissioner, to succeed Dr. Ernest Wende as health commissioner.

Hospital Overcrowded.—The Buffalo State Hospital for Insane has been much overcrowded, and to relieve this congestion 120 patients, principally New York County patients, will be transferred to the Willard State Hospital and Manhattan State Hospital.

New York City.

Legacy to the Metropolitan Hospital and Dispensary.—By the will of the late Dr. Henri Guilbault, the Metropolitan Hospital and Dispensary of New York, 248 E. 82d Street, receives $3000.

Colored Nurses Graduate.—On December 6, the Colored Hospital graduated a class of trained nurses. In the afternoon they gave a practical demonstration of their proficiency, and in the evening the graduating exercises were held, the feature of which was the address by Dr. T. Gaillard Thomas.

Protection Against Malpractice Suits.—The executive committee of the New York County Medical Association has had under advisement for some time past the problem of how the members of that Association may be best defended against suits for malpractice. The committee announces that it is prepared to submit to the Association, at its meeting on December 16, the outline of a plan. While conceding that this work should be done by the State Association, many of the members in New York County are disappointed with the apparent disinclination of that body to take up this important work.

Personal.—Dr. William H. Guilfoy, for seventeen years connected with the Health Department, has been appointed registrar of records to succeed Dr. Roger S. Tracy, resigned. The appointment was the result of a competitive examination and the salary of the position is $4000 a year.——Dr. Edward Livingstone Tradeau has been appointed a member of the board of trustees of Columbia University.——Dr. Ralph A. Hayt is about to take a six-months' trip through South America.——Dr. John H. Telfair has been made house-surgeon of the Williamburg Hospital, and Dr. Charles Lubrecht ambulance surgeon.

Tenement House Commission.—The physicians of New York City are naturally interested in the work of the Tenement House Commission, and will watch with interest the effect of the first law drafted by that body. It is now announced that Robert W. De Forest, who has in the past been so closely identified with this work, has been selected by Mayor-elect Low to be the first Tenement House Commissioner. He is quoted as believing that "The extreme of the law is the extreme of injustice," from which it is inferred that he will endeavor to administer it conservatively, and yet keep so close to its spirit as to secure better sanitary conditions for the tenement dwellers, who constitute more than one-half of the population of Greater New York. Many physicians believe that in this field a vast deal can be done toward effectively limiting the spread of pulmonary tuberculosis.

OHIO.

Communicable Diseases.—Measles is epidemic in Springfield and Cincinnati; scarlet fever in Columbus; diphtheria in Cambridge and smallpox in Magnetic Springs.

Akron City Hospital Staff.—The officers and medical staff of the City Hospital were re-elected November 26. In addition, Dr. H. I. Cozad was elected pathologist; Dr. W. S. Chase, bacteriologist, and Drs. J. A. Hulse and G. W. Stauffer, anesthetists.

Personal.—Dr. Stephen A. Cunningham, Marietta, is dangerously ill from a septic wound of the hand.——Dr. Claude N. Chrisman, Dayton, has gone to Missouri, where he hopes to regain his health.——Drs. L. J. Spickard, Columbus, and R. G. Bazelle, Rock Camp, have joined forces and will practice in Irontom.——Dr. Thomas W. Walker, Steubenville, is critically ill.——Dr. Albert Hathaway, Nettle Lake, has located at Edon.——Dr. Guy McFall, Sandusky, has settled in active practice at Detroit.——Dr. Kennon Dunham, Cincinnati, has left for a year's study abroad. The greater part of his stay will be in London.

PENNSYLVANIA.

Donation to German Hospital.—On "donation day" at the German Hospital, Philadelphia, the friends of the institution gave more than $10,000 in cash and supplies.

Personal.—Dr. Harry W. Dechert, Tamaqua, has been appointed deputy coroner for the Orwigsburg district.——Dr. Francis B. Davison, who has practiced for many years at Fleetville, has moved to West Pittston.

Smallpox in Philadelphia.—The epidemic of smallpox in the city has assumed serious proportions. During the last week, 113 new cases were reported. More than 1000 homes are under quarantine, the municipal hospital is overcrowded and no other hospital will receive smallpox cases. It is said that in the last three months 800,000 individuals have been vaccinated. The mortality for the week from the disease was 14.

Tetanus and Vaccination.—The State Board of Health and Vital Statistics of Pennsylvania has transmitted the following resolutions adopted at a regular meeting held at Harrisburg, November 21: "Resolved, That in view of the very natural public apprehension in regard to the possibility of tetanus following vaccination, as illustrated by recent cases of this accident in a neighboring state, this Board desires to state its conviction founded upon a careful study of the history of vaccination and of the cases referred to, that it has yet to be demonstrated that vaccine virus ever contains or becomes contaminated with the germ of tetanus. When such occurrences as those referred to take place, it is because, owing to carelessness, usually on the part of the person vaccinated, the germs of tetanus have gained access to the wound on the arm as they may to any other wound, abrasion or scratch upon the surface. Resolved, That there is no reason for dreading, or abstaining from vaccination, because of these recent cases. This is sufficiently demonstrated by the fact that more than half a million persons have been vaccinated in and around the City of Philadelphia within the past few months without the occurrence of a single case of tetanus. Resolved, That, inasmuch as new cases of smallpox are being reported to the Board daily from all parts of the state, the present would be a most unfortunate time to interrupt the general vaccination which is now in progress. Resolved, That this Board condemns in the strongest possible terms, the use of any material or medicament administered by the mouth as a substitute for vaccination, and that any physician furnishing a certificate of successful vaccination based upon the administration of any such substance or remedy, lays himself open to prosecution for violation of a state law. Resolved, That this Board reaffirms its previous declaration of confidence in the value of vaccination as a preventive or modifier of the severity of smallpox, and its belief that the possibilities of serious results following its performance must be looked upon as infinitesimal in comparison with the inestimable advantages derived from the same.

CANADA.

Appointment.—Dr. R. Boulet of the Ophthalmic Institute, Montreal, has been appointed director of the dispensary of the eye and ear department of the Hotel Dieu Hospital.

Samaritan Hospital, Montreal.—At the last regular monthly meeting of the Board, the surgeon-in-chief, Dr. Lapthorn Smith, announced that the work at this institution during the past summer was the heaviest since the hospital was opened by Lady Aberdeen eight years ago. It is expected that every bed will be occupied from the present time until spring; and as evidencing the purely charity work of this hospital, there is only one private patient in the wards at the present time.

Quebec Licenses to Practice.—The College of Physicians and Surgeons of the province of Quebec has decided to issue licenses to all physicians who present university diplomas,

without further examination. This action of the College applies only to those who come under the operation of the statute of the Quebec Legislature, known as the Roy law, which was adopted two years ago. The courts have rendered several decisions recently adversely to the College, holding that the College was bound to give licenses to those who came under the operation of this law.

Compulsory Vaccination at McGill.—Owing to the extensive outbreak of smallpox in the province of Quebec, compulsory vaccination is ordered at McGill University, and the authorities have decided to enforce the requirements of the Public Health Act in this respect. Vaccination is going on in the Medical Building, daily, and it will take a few days to complete the entire number as there are over 1200 students in the various departments at McGill.

Charitable Bequests.—By the will of the late Mr. W. E. H. Massey of Toronto, 1000 shares of stock in the Massey-Harris Manufacturing Company, valued at $100 per share, has been willed to various charitable and religious objects. Victoria University, Toronto, gets five-twentieths of this amount. One-twentieth is to be handed over to the Sick Children's Hospital, Toronto, to endow and maintain a cot in that institution. One-twentieth is left to the Trustees of Boston University, Boston, Mass., and one-twentieth to other charities in Toronto.

Death While Administering Chloroform.—A man aged 53 years recently died at the Western Hospital, Toronto, while undergoing an operation; as the house surgeon who was administering the anesthetic had not fulfilled all the requirements of the Ontario Medical Law entitling him to practice his profession, the death caused some little comment. A coroner's jury investigated, when it was found that no blame was attached to the young doctor in question, although the cause of death was set down to chloroform poisoning through anesthesia. The jury strongly recommended that in hospitals in the city where operations were performed, a specially appointed and competent anesthetist should have charge of this work.

Toronto Clinical Society.—This society held its regular meetings on November 6 and December 4. At the former meeting, Drs. George A. Bingham and J. T. Fotheringham reported a case of thyroidectomy in a female aged 30 years. This condition of enlarged gland, etc., had continued for four or five years, during which time she decreased in weight from 167 to 120 pounds. Dr. Bingham performed the operation through an incision extending from the left mastoid process to the sternum, closing up the cavity which remained by quilting with several rows of catgut sutures. Both gentlemen were very much impressed with the use of the ice bag to the precordia for subsequent tachycardia. Dr. J. Algernon Temple reported a case of Paget's disease of the nipple and showed the fresh pathologic specimen. The disease occurred in an unmarried woman aged 45 years, and a year prior to the operation no growth could be found in the breast. Dr. Temple removed the entire breast with all the fatty tissue clean down as far as the pectoral muscle. In the above two cases the patients made good recoveries. At the December meeting an interesting case of blastomycosis in a man of 50 years, an engineer, was shown by Dr. Graham Chambers. The lesions were situated on the nose, upper lip, cheeks and backs of the hands and fingers. Although Dr. Chambers had not as yet demonstrated the fungus under the microscope, he believed he had made the correct diagnosis. The lesions are undergoing marked improvement under large doses of iodid of potash. Dr. A. J. Harrington reported a case of mushroom poisoning from a very small raw piece of the fungus, with recovery. His treatment practically amounted to two hypodermic injections of atropin. The president, Dr. J. F. W. Ross, showed two specimens of ectopic gestation occurring in a woman at the same time. One was advanced to three and one-half months, while the other was about six weeks. The patient made a good recovery from the operation, although she nearly collapsed while on the table. Dr. Rose stated that he had had four cases of ectopic gestation following on a previous operation for the same condition.

FOREIGN.

Plague at Rio de Janeiro.——Four new cases of the plague and one death were reported at Rio de Janeiro, on December 3.

Prof. W. His, Jr., has resigned his chair at Leipsic since his appointment to be medical superintendent of the city hospital at Dresden.

Deaths Abroad.—Dr. K. von Liebermeister, professor of internal medicine at Tübingen, Niemeyer's pupil and successor.——Dr. A. Villard, professor of clinical medicine at Marseilles.——Dr. G. Chiarleoni, professor of obstetrics at Palermo.——Dr. A. Maseras, professor of medical pathology at Manila.

Insurance Company's Consumptives' Home.—The German insurance company "Berlin," has erected at Lichtenberg a home for consumptive policy-holders. The expense of total maintenance is much greater than the payment of the individual indemnities, and the institution is thus exclusively for the benefit of the inmates.

LONDON LETTER.

Plague in Glasgow.

All fear of immediate extension of the outbreak of plague has now practically ceased. There have been no new cases during the last three weeks, and the hotel where the original patients were employed has been thoroughly disinfected and is to be reopened. The Local Government Board of Scotland has intimated approval of the order of the local authority making plague a notifiable disease within the city until Dec. 31, 1902. Dr. A. K. Chalmers, the medical officer of health, has issued a circular dealing with the relationship of ships entering and leaving the port, and with the conditions which they must adopt in order to avoid prolonged detention in quarantine. He advises that continuous efforts should be made to destroy rats on board ships, and advises for this purpose sulphur fumigation when the holds are empty.

Pestis Minor in London.

A case of "pestis minor" has occurred. A man aged 24, a lighterman on the Thames engaged in unloading merchandise from the Baltic, applied to the West London Hospital with lumps in his groin. Three weeks previously he fell and hurt the lower ribs on the right side. To this he ascribed the subsequent swelling of the glands. By November 4 he had to cease work. There were severe headache, a temperature of 101 F., furred tongue, injected conjunctivæ, enlarged spleen, swollen inguinal glands and some enlargement of the cervical and axillary glands. In either groin two or three glands could be felt, one of which was as large as a walnut. The overlying skin was not red, but exquisitely tender. The bacteriologic examination made by Dr. Klein negatived true plague. The disease was probably pestis minor—a specific form of glandular enlargement which occurs when plague threatens or is actually prevalent. In pestis minor the plague bacillus is only occasionally found, and then in an involuted form. Rats have been destroyed in enormous numbers; from September 23 to October 27 14,610 were killed, making a total up to that date of 75,424.

Plague in India—Commission's Report.

A valuable report on the outbreaks of plague in India in recent years has been issued. In November, 1898, a commission was appointed by the Indian Government to investigate, 1, the origin of the outbreaks; 2, manner in which the disease is communicated; 3, effects of curative serum; 4, effects of preventive inoculation. The members of the Commission were: Dr. Fraser, professor of materia medica in the University of Edinburgh; Dr. Wright, professor of pathology in the Army Medical School, Netley; Mr. A. Cumine, senior collector in the Bombay Presidency, and Dr. M. A. Puffer, president of the Sanitary, Maritime and Quarantine Council of Egypt. The report is very voluminous and exhaustive, covering over 400 pages of a bulky "blue-book," apart from appendices. The most important part is that dealing with Haffkine's anti-plague inoculation. The following are the conclusions: 1. Inoculation diminishes the incidence of plague attacks, but the protection is not absolute. Plague has attacked persons who have been inoculated as often as four times in the course of the two years previous to the attacks, and as many as 8 per cent. of the inoculated population may suffer from plague. 2. Inoculation diminishes the death-rate of those attacked. Here again the Commission has been unable to state the effect numerically. 3. Inoculation does not appear to confer any great protection within the first few days. 4. The protection conferred by inoculation certainly lasts a considerable number of weeks, possibly a number of months. The Commission recommends accurate standardization of the vaccine for the attainment of the best results, stringent precautions against contamination, and encouragement of inoculation whenever possible. With reference to the serum therapeutics, especially the serums of Yersin and Lustig, they say that though the success is in no way comparable to that obtained in the serum treatment of diphtheria yet the method, as in other infectious diseases, is the only one which holds out a prospect of ultimate success. As to the measures for the suppression of plague in

India the Commissioners say that while all have not been beneficial every possible experiment has been tried and every possible effort made to restrict and eradicate the disease. They point out that increased communications now render the spontaneous disappearance of plague less probable than formerly.

Smallpox in London.

The outbreak of smallpox is still increasing. The number of patients under treatment which had been 172, 180, 284 and 297 in the preceding weeks, has risen to 368 according to the last weekly return. The number of cases is still increasing, for there are 402 in hospital. In connection with the present epidemic the history of previous ones is of interest. The Registrar-General's returns, which commenced in 1838, show that the disease appeared in London in epidemic forms at intervals sometimes as short as 2 years, sometimes exceeding 5 years, until the great epidemic of 1871-72, when no fewer than 10,671 deaths occurred. The next epidemic occurred in 1876-78 with 4704 deaths, one in 1881 with 2367 deaths, one in 1884-85 with 2665 deaths. Then a great change was made in the method of isolating cases. Up to this time the hospitals were situated in London, but in 1884 hospital ships were established 18 miles down the Thames River. Only milder cases were sent to the ships. Subsequently all cases were sent as no ill-results occurred from the practice even in the most acute. In the three years, 1886-88, only 42 deaths from smallpox of London residents occurred; in 1889 not one; in 1890 and 1891, 11.

Royal College of Surgeons: Annual Meeting of Fellows and Members.

The annual meeting of the Fellows and Members was held at the College. The president presented the annual report. The usual annual resolution which has been passed for the last 17 years that the members should have a voice in the government of the College was passed. The College is governed by a Council consisting entirely of Fellows who are elected only by Fellows. The members, who number 16,000, have no voice in the matter whatever. However, as the Fellows are much the most highly educated section—the consultants of the surgical profession—this oligarchy of ability has its advantages. With true English conservatism the resolution passed at the annual meeting, the only opportunity that the members ever have of expressing any opinion in the government of the College, is always ignored by the Council.

London Fogs.

The reputation of the terrible London "pea-soup fogs" which turn day into night, is well known. They result from the suspension in the atmosphere of minute particles of carbon the result of the incomplete combustion of coal. At a recent meeting of the "Coal Smoke Abatement Society," Sir William Broadbent moved a resolution that "the pollution of the air by coal smoke is injurious to the public health and vitality, destructive of works of art and vegetation, and demoralizing to the inhabitants of a great city." Comprehensive as was this indictment it was not exhaustive. Every fog is a death warrant to a number of sufferers from bronchitis and heart disease. No one can live in London to a certain age without having his lungs speckled with carbon. The suburb of Kew, where are the celebrated botanical gardens, was once comparatively pure. Now, owing to the metropolitan extension, it is invaded by fog. During the prolonged fog of 1891 leaves fell in the palm houses in Kew Gardens and were swept away by the bushel. This was the result of the withdrawal of light. In addition, there was a deposit on the glass houses which resembled brown paint. It was calculated that this deposit was equivalent to the distribution of 6 tons of solid matter per square mile in the course of a week. This Society makes observations of offending shafts in which the production of smoke exceeds the legal limit and compels the owners to abate the nuisance. Since its foundation in March, 1899, it has carried out 2750 observations of offending shafts, made 1690 complaints and secured the imposition of fines amounting to $3500.

Correspondence.

Appendicectomy—Surgical History.

PHILADELPHIA, Dec. 9, 1901.

To the Editor:—In the interesting article appearing in last week's JOURNAL, contributed by Dr. B. Merrill Ricketts, of Cincinnati, upon "Appendicectomy—Surgical History," to which is appended a bibliography of the subject, from 1758 to 1888, there occurs a notable omission, that has doubtless not escaped the observation of some of your readers, and for supplying which I feel assured that Dr. Ricketts will be the first to thank me in the interest of accuracy and in justice to American surgery. By referring to THE JOURNAL I find that in Vol. x, on page 733, Dr. Thomas G. Morton of Philadelphia published an article entitled "The Diagnosis of Peri-Cecal Abscess and Its Radical Treatment by Removal of the Appendix Vermiformis." In this communication, Dr. Morton refers to a case, which had been diagnosed by two physicians as one of appendicitis, in which view Dr. Morton concurred and promptly operated by celiotomy and extirpation of the diseased appendix. This operation was performed on April 23, 1887, and therefore antedates the cases both of Sands (Dec. 30, 1887) and McBurney (May 23, 1888). The case operated upon by Morton had been reported by the undersigned, to the College of Physicians of Philadelphia, at its meeting one June 1, 1887 (Transactions of the College of Physicians, 3 Series, Vol. ix, page 183). The statement appearing in Dr. Ricketts' paper (p. 1534) that McBurney's patient (May 23, 1888) was "the first case in which an operator had deliberately planned for and did remove a diseased appendix" would be likely to convey a false impression, if attention were not at the same time directed to this case which had been correctly diagnosed and the operation of removal of the appendix deliberately planned and the plan successfully carried out by Morton more than a year before the date assigned by Ricketts, as that of the first operation of its kind. It perhaps should be stated that Dr. Morton was led to decide upon extirpation of the diseased appendix by his experience in a similar case a few months previously. On Feb. 21, 1887, he had performed a celiotomy for Dr. E. R. Stone, of this city, upon a woman suffering with pericecal abscess, in which the appendix was found to be extensively diseased. In this case also he ligatured the appendix at its base and removed the organ; but in this patient the diagnosis of appendicitis had not been positively made and removal of the appendix decided upon previous to the section. This case has also been reported (Transactions of the College of Physicians, Vol. ix, p. 189). The subject of the other operation was a young man who made a perfect recovery and is now engaged in active business life. References to this now celebrated case will also be found in THE JOURNAL for July 25, 1891 ("On Appendicitis with Peri-Cecal Inflammation" by Dr. Thomas G. Morton) and also in the Transactions of the Philadelphia County Medical Society for Dec. 14, 1887 ("Treatment of Peri-Cecal Inflammation" by Thomas G. Morton, M.D.)

Very respectfully yours, FRANK WOODBURY.

The Army Canteen.

HARTFORD, CONN, Dec. 6, 1901.

To the Editor:—The American Public Health Association is composed of many very practical men, and it is reasonable to suppose that they knew what they endorsed by vote at a recent session. The following resolution was offered and considered in a committee, then unanimously passed in the general session of the Association:

"Resolved, That this body deplores any action in curtailing the operation of army canteens or post exchanges and in the interest of general and military sanitation and temperance recommend their establishment *as formerly existing in the United States.*"

The spirit interests have circulated this resolution very widely as evidence that the canteens, with beer and spirits, are needed to keep the army temperate and sober. The "anti-canteeners" are using the same resolution to demonstrate that the public health doctors want no change, but recommend the establishment of the canteen "as formerly existing in the United States," which was originally without beer or intoxicants. The zeal of the authors of this resolution is more pronounced than their accuracy of statement; as a result the Association is placed on the fence, to come down on the side most convenient.

Very truly yours,

T. D. CROTHERS, M.D.

Married.

JOHN MARDER M.D., Venice, Ill., to Miss Ella Sommer, at St. Louis, November 23.

AUGUST W. SEIDLER, M.D., to Miss Mary C. Shields, both of Baltimore, November 24.

SHERIDAN A. LOCKWOOD, M.D., to Myrtle E. Spencer, M.D., both of Portland, Oregon.

JOSEPH J. MALLOY, M.D., Dublin, Texas, to Miss Halcomb, Cisco, Texas, November 27.

HARRY CHILES HUGHES, M.D., to Miss Mary McMahon, both of Baltimore, November 26.

BENJAMIN JAUDON, M.D., Palmyra, Mo., to Miss Susie R. Berkley, of Henderson, Ky.

NORMAN E. JOBES, M.D., to Miss May Heller, both of Indianapolis, Ind., December 7.

GEORGE L. PORTER, M.D., to Mrs. Norma Forrest, both of Trenton, Tenn., November 26.

BASIL T. BENNETT, M.D., to Miss Mabelle Harbert, both of Trenton, Tenn., November 26.

ROBERT B. ARMSTRONG, M.D., to Miss Helen Chase, both of Papillion, Neb., November 27.

ELMER E. BARR, M.D., Whiting, Neb., to Miss Flora Dahlberg, of Creston, Iowa, November 27.

ANDERSON WATKINS, M.D., to Miss Mary Hammond, both of Little Rock, Ark., November 30.

RUSSELL G. FLOYD, M.D., to Miss Jennie Setzer, both of Eureka Springs, Ark., November 27.

CHARLES B. FORMAN, M.D., to Miss Lala Blankenship, both of Attalla, Ale., at New York City.

JAMES CLINTON MOORE, M.D., Warrior, Ala., to Miss Willie Wallis at Talladega, Ala., December 5.

EDWIN MARTIN BULLWINKEL, M.D., to Miss Helene E. Weber, both of Brooklyn, N. Y., November 26.

DANIEL B. CLIFFE, JR., M.D., to Miss Martha Elise Jones, both of Franklin, Tenn., November 28.

C. DAVE SADLER, M.D., Baltimore, to Miss Ethelind L. Pittman at Whittaker's, N. C., November 27.

WILLIAM S. CUFF, M.D., Hancock, Minn., to Miss Edna A. Stewart, of Litchfield, Minn., November 28.

JOSEPH J. MEREDITH, M.D., St. Louis, Mo., to Miss Georgia Ella Muffley, of Ironton, Mo., November 28.

HILLIARD WOOD, M.D., Nashville, Tenn., to Miss Martha Louise Wood, of Sparta, Tenn., December 11.

ALBERT C. CRAWFORD, M.D., Baltimore, Md., to Miss Mary L. L. Page, of Virginia, at Baltimore, November 29.

JOHN MAIRS THORNE, M.D., McKeesport, Pa., to Mrs. Caroline Hartje Reineman, of Pittsburg, Pa., December 2.

FRANK B. FLORENTINE, M.D., Saginaw, Mich., to Miss Effie B. Ashelby, Jacksonville, Ill., at Chicago, November 28.

COUNCIL H. MAXWELL, M.D., Calvary, Ga., to Miss Catherine McDougall McIntosh, of Jacksonville, Fla., November 27.

JAMES A. ANDREWS, M.D., Eustis, Neb., to Miss Lulah Katherine Trott, of Kearney, Neb., at Omaha, November 27.

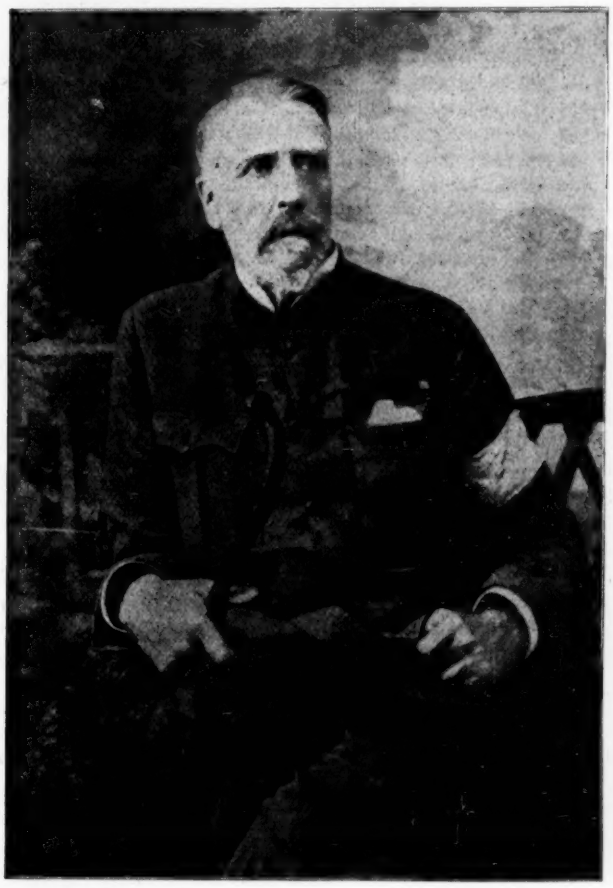
EDMUND A. MUNOZ, M.D., Baltimore, captain Fifth Regiment M. N. G., to Miss Lena Custis Wise, at Baltimore, December 7.

PERRY BROMBERG, M.D., Nashville, Tenn., to Miss Daisy D. Kleeman, of Clarksville, Tenn., at Hopkinsville, Ky., November 28.

J. PAGE MASSIE, M.D., Richmond, Va., to Miss Cynthia Mundy, daughter of Dr. John C. Mundy, of Allen's Creek, Va., November 27.

Deaths and Obituaries.

Sir William MacCormac.—In our last issue a brief announcement was made of the death of Sir William MacCormac, which occurred suddenly at Bath, England, from heart disease. As one of the greatest British surgeons of the day, his career calls for a rather more extended notice. William MacCormac was born Jan. 17, 1836, at Belfast, Ireland. The son of a physician, he followed his father's profession, and received a general and professional education at Belfast, Dublin and Paris. Though he held honorable professional positions before, his first general prominence was due to his observations during the Franco-German war of 1870, which he published in a work that has been translated into the German, French, Spanish, Italian, Russian and Japanese languages and made him the great authority at the time on military surgery. His subsequent service in the Turko-Servian war enlarged his experience in this line, and his recent connection with the surgical history of the Boer war is so recent as to be known to all in the medical profession. His standing with his confrères can be judged by the fact that he was several times elected president of the Royal College of Surgeons, and the honors he received from his own and other governments are almost too numerous to mention. His connection with the International



SIR WILLIAM MACCORMAC, F.R.C.S.I., F.R.C.S. ENG., ETC.

Medical Congress of 1881, to which he acted as Hon. Secretary-General, and to the success of which it is said he contributed more than any other man, brought him the honor of knighthood; he was made a baronet and surgeon-in-ordinary to the Prince of Wales in 1897. Besides his European honors, his work as a surgeon was recognized in this country by his election to the honorary fellowship in the American Surgical Association. At the time of his death he was consulting surgeon and emeritus lecturer in clinical surgery at St. Thomas' Hospital, the institution with which he was an active medical teacher for twenty years; his services and name were in demand in other hospitals and in various official positions. His death at the comparatively early age of 65 has deprived Great Britain of one of its most brilliant authorities in surgery. His best known works are "Notes and Recollections of an Ambulance Surgeon," 1871; "Antiseptic Surgery, Its Principles and Practice," 1880; and "Surgical Operations," 1885. His addresses, contributions to composite works, and separate articles would make an extensive list.

Josiah Abbott, M.D. College of Physicians and Surgeons of the Western District of New York, Fairfield, 1840, a veteran of the Civil war, in which he served as assistant surgeon of the 13th Heavy Artillery and as surgeon of the 119th U. S. Volunteer Infantry, who had practiced for half a century in Rindge and Winchendon, Mass., died at his home in the latter place, November 27, from paralysis, after an illness of only a few hours, aged 90.

David S. Perkins, M.D. Jefferson Medical College, Philadelphia, 1883, a member of the American Medical Association, formerly of Cleveland, Ohio, but for the last three years a resident of New Mexico, and medical director of the Montezuma Hotel, Las Vegas Hot Springs, died at El Paso, Texas, November 30, after an operation for tuberculosis of the liver.

Moses Marshall, M.D Ensworth Hospital Medical College, St. Joseph, Mo., 1885, a prominent physician of Easton, Mo., died at his home in that place, December 2, from blood poisoning from a wound on the hand by the fin of a catfish, after an illness of ten days, aged 48.

J. C. Munday, M.D. Tulane University, New Orleans, La., 1872, who had practiced in Lake Charles, La., until last winter, when, on account of ill-health, he removed to San Antonio, Texas, died at his home in that city from tuberculosis, November 24, aged 55.

James S. Bibby, M.D. Bellevue Hospital Medical College, New York, 1875, a practitioner of Paterson, N. J., for twenty-five years, died at his home in that city, November 28, from pneumonia, aged 58. He was a member of the Passaic District Medical Society.

J. R. Barkley, M.D. Memphis (Tenn.) Hospital Medical College, 1892, a resident of Woodburn, Miss., who was kicked in the knee by a horse and brought to the King's Daughters' Hospital, Greenville, Miss., for treatment, died there, November 30, aged 35.

John W. Brock, M.D. Starling Medical College, Columbus, Ohio, a member of the Noble County Board of Pension Examiners and a prominent physician of Caldwell, Ohio, died at his home in that place, December 3, from acute brain disease, aged 51.

David McDill, M.D. Rush Medical College, Chicago, 1887. Burlington, Iowa, died at the United States Military Prison, Fort Leavenworth, Kansas, where he was appointed surgeon a year ago, from apoplexy, December 4, aged 41.

Patrick J. McKenna, M.D. Tulane University, New Orleans, La., 1888, died as the result of fracture of the skull received by a fall from a railway train, at the Keogh-McKenna Hospital, Salt Lake City, Utah, November 29.

John C. Hartt, M.D. Long Island College Hospital, Brooklyn, N. Y., 1892, died at Kings County Hospital, Brooklyn, November 24, from skull fracture received in a fall from his horse six days previously, aged 40.

Charles B. Osborne, M.D. University of Buffalo, N. Y., 1890, coroner of Seneca County, N. Y., died at his home in South Waterloo, N. Y., December 2, from acute nephritis, after an illness of one week, aged 54.

Charles S. Essig, M.D. Jefferson Medical College, Philadelphia, dean of the dental department of the University of Pennsylvania, died at his home in Wallingford, Pa., from pneumonia, December 2.

Magruder Muncaster, M.D. University of Maryland, Baltimore, 1883, formerly of Washington, D. C., died at Rockville, Montgomery County, Md., November 28, from Bright's disease, aged 42.

Johnson G. McCullough, M.D., the oldest practicing physician in Belmont County, Ohio, died at his home in Bellaire, November 15, from paralysis, after an illness of three weeks, ager 75.

Adolph Wermuth, M.D. Fort Wayne (Ind.) College of Medicine, 1898, died at the residence of his parents in Fort Wayne, Ind., November 27, after an illness of fourteen days, aged 23.

Charles W. Ballard, M.D. Washington University School of Medicine, Baltimore, 1847, died at his home in Braidentown, Fla., November 27, from heart disease, after a short illness, aged 75.

Daniel Vortner Sevier, M.D. University of Louisville, Ky., 1854, who spent an active life in the practice of medicine in Franklin County, Ala., died at his home in Russellville, recently, aged 78.

I. Newton Evans, M.D. Jefferson Medical College, Philadelphia, a member of Congress for three terms, died suddenly at his home in Hatboro, Pa., November 3, from heart disease, aged 74.

Levi Hasseltine, M.D. Castleton (Vt.) Medical College, a practitioner of Bristol, Vt., for more than thirty years, died at the house of his son in Pittsford, Vt., November 26, aged 82.

James E. Gibbons, M.D. Washington University School of Medicine, Baltimore, Md., 1868, a physician of Baltimore, died suddenly from heart disease, December 2, aged 58.

T. Hampton Cook, M.D. Medical College of Ohio, Cincinnati, 1880, died at his home in Scio, Ohio, November 25, from cancer, after an illness of two years, aged 50.

John A. Elliott, M.D. Memphis (Tenn.) Hospital Medical College, 1886, died at his home near Bonicord, Tenn., November 26, from consumption.

George R. Edwards, M.D. University of Wooster, Cleveland, Ohio, 1883, died from Bright's disease, at his home in Los Angeles, November 28.

Edwin Davis, M.D., ensign and assistant surgeon U. S. Navy, a native of Louisville, Ky., died at Las Vegas, N. M., November 15.

C. L. Broaddus, M.D. University of Nashville, Tenn., 1899, died suddenly from heart disease at Wallonia, Ky., December 1, aged 40.

Henry C. Houghton, M.D. New York University, 1867, died suddenly at his home in New York City, December 1, aged 64.

O. C. Brittain, M.D. Atlanta (Ga.) Medical College, 1886, died at his home in Franklin, Ga., November 23, aged 64.

Carl Schenck, M.D., died from consumption at his home in Franklin, Ohio, November 27, aged 31.

Books Received.

THE SURGICAL AND MEDICAL HISTORY OF THE NAVAL WAR BETWEEN JAPAN AND CHINA, During 1894-1895. Translated from the Original Japanese Report, Under the Direction of Baron Saneyoshi, F.R.C.S. Eng., Director-General of Medical Department of Imperial Japanese Navy, by S. Suzuki, M.R.C.S. Eng., L.R.C.P., Lond., Deputy Inspector-General of Hospitals and Fleets, Imperial Japanese Army. Cloth. Pp. 544. Tokio: Printed by Tokio Printing Co., Ltd. 1901.

If there was ever any question as to the standing of Japan as a civilized nation the edition of a work like this would help to settle it in the affirmative. This handsome volume contains an account of the medical side of the naval operations during the Japanese-Chinese war and is the first elaborate contribution to the medical history of extensive naval operations in war under modern conditions. In fact, the battle of Yaru, as the Japanese spell it, though we have been used to call it Yalu, is the most extensive conflict of which medical records are available in which ironclads and modern weapons were employed. Our Spanish-American war gives us very little medical history of this kind, as the casualties on the American ships were so few. If we could get the Spanish side of it this would probably be different, but circumstances will probably forever forbid that. The volume contains an elaborate history of all the cases discussed and classified, including shell wounds, splinter wounds, powder burns, shock, steam burns, bullets, collision injuries, etc. The volume is instructively illustrated and translated by Dr. Suzuki into generally excellent English; only here and there a slip shows its foreign origin. It is in all respects a valuable contribution to the

medical history of naval warfare. It also covers the medical conditions of the Japanese fleet during the Chinese-Japanese war, discussing also such diseases as kakkè or beri-beri, which the Japanese authorities do not regard as infectious, but rather as a dietetic ailment. As the Japanese medical men have probably had a larger experience with it than any others, we must respectfully regard their opinion, even though it may not be our own. It is not stated in the work that it is a government publication, but we take it that this is the case, and if so, it is a credit to the government which sends it out.

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY, Including Many of the Principal Conceptions of Ethics, Logic, Anesthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science, and Education, and Giving a Terminology in English, French, German and Italian. Edited by James Mark Baldwin, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University. With the Cooperation and Assistance of an International Board of Consulting Editors. In Three Volumes, with Illustrations and Extensive Bibliographies. Vol. I. Cloth. Pp. 644. Price, $5.00. New York: The Macmillan Co. 1901.

This is the first volume of a work that, while not professedly medical, is one that any physician who reads and thinks can profitably utilize. The relation of psychology to medicine ought to be apparent enough to prove this statement without argument. This work, however, covers not only the subjects usually included in a dictionary of philosophy with psychology as an included branch, but those of biology, neurology and psychiatry which have in these later days come to be also in the cognizance of the student of human mentality. It is an encyclopedia dictionary not only of philosophy but also to a great extent of physiology and psychologic pathology. Its usefulness to the physician therefore is obvious; it can be of aid to him in his professional work as well as in his general culture. The consulting editorial staff includes names as well known in medicine as Exner, Ziehan and Morselli, and among the contributors those of Adolph Meyer, Hodge, Minot and others; they ought to be assurance that our science is adequately represented. There is no work like it in our language, no other that attempts to so fully cover the terminology of biologic, physiologic, mental and moral science as this does, or that more satisfactorily succeeds in its aim. The medical subjects are generally handled in a way that will prevent their losing their utility by soon falling behind the times and the work will long be a standard work of reference. The bibliographic references appended to each subject treated at length, materially add to its value. There is hardly any other work not strictly medical, that can be more sincerely recommended as an addition to the physician's library.

A TEXT-BOOK ON DISEASES OF THE EAR, NOSE AND THROAT. By Charles H. Burnett, M.D., E. Fletcher Ingals, M.D., and James E. Newcomb, M.D. With Numerous Illustrations. Cloth. Pp. 734. Price, $5.00. Philadelphia and London: J. B. Lippincott Co. 1901.

This work on co-related branches has been written by leading specialists and teachers in their respective departments of otology, rhinology and laryngology. Each of the triad of subjects is introduced by a concise, yet thorough, description of the anatomy and physiology of the parts. It seems almost needless to say that the treatment is up to date in every respect. The mechanical make-up of the book, with regard both to material and workmanship, is beyond criticism. By means of large, well-filled pages, with a clean and clear type, the publisher has been enabled to bring the three allied subjects, thoroughly considered, within the limits of a conveniently sized treatise. It is certainly one of the best text-books on these branches before the profession, and as such we unhesitatingly recommend it.

IRREGULARITIES OF THE TEETH AND THEIR TREATMENT. By Eugene S. Talbot, M.D., D.D.S., Professor of Dental and Oral Surgery, Northwestern University, Woman's Medical School. Fourth Edition. With 580 Illustrations. Cloth. Pp. 546. Price, $5.00. Philadelphia: F. A. Davis Co. 1901.

This fourth edition of Dr. Talbot's work, which is slightly altered in its title, has been thoroughly revised and in some portions at least is almost a new work. The last edition was received by the scientific world with much favor and it seems likely that this present edition will be even more satisfactory. The principal changes have been made in the first portion where he discusses the general principles of degeneracy and its causes. It is here almost an entirely new work; the latter part also has been revised, contains a much larger number of illustrations and statistical tables, and a great deal of new matter scattered throughout the text. There is no dental work that we know of which is more scientific than the present one, though in its form and general composition it is less difficult and technical than many pretentious works. The general make-up of the book is greatly improved over the previous volume.

TEXT-BOOK OF NERVOUS DISEASES, Being a Compendium for the Use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D., Professor of Nervous Diseases in Cornell University Medical College. Fifth Edition. With 244 Illustrations. Cloth. Pp. 633. Price, $3.50 net. New York: William Wood & Co. 1901.

This work, which has been much enlarged during the successive editions through which it has passed since its first appearance, has been revised and somewhat added to in the present one. The chapter on myelitis has been rewritten; a chapter on general paresis has been added, including this, as is proper, among the nervous diseases falling wholly as much to the specialty of neurology as to psychiatry. The author's experience with this disorder is of interest in that he shows a large proportion of Hebrews among his private cases, in this matter agreeing with a recent English observer who has called attention to this prevalence. The chapter on myelitis has been completely rewritten and though the author does not speak of the other changes that have been made, they seem to be such as add to the value of the work. The book is one that will undoubtedly continue to meet with the general favor that it has thus far received by the profession.

DISEASES OF THE RESPIRATORY TRACT—The Nose, Pharynx and Larynx. By P. Watson Williams, M.D. Lond., Physician in Charge of the Throat Department at the Bristol Royal Infirmary; Physician to the Bristol Institute for the Deaf and Dumb. Fourth Edition. Illustrated. New York, London and Bombay: Longmans, Green & Co. 1901.

The rapid passage of this work through three previous editions bespeaks its popularity. This last edition contains over 400 pages of text besides an appendix of useful formulæ. It has nearly 250 illustrations, 37 of which are exceptionally fine plates, some of them colored, the others adapted to the stereoscope, which instrument the author has had slipped into a pocket in the cover of each volume. Its use, however, adds but little of practical value to the cuts. A feature of the fourth edition is the amplification of the sections on diphtheria and the diseases of the nasal accessory sinuses. If any special adverse criticism is to be offered it would be that many of the sections on treatment, as for instance, that on hypertrophic rhinitis deal with the subject too much in outline, without sufficient attention to details of method to be of service to the general practitioner and beginner on the one hand, or on the other, to the laryngologist already versed in technique of one or more methods.

Miscellany.

Gelatin Treatment of Aneurysm.—Brilliant success is reported from the subcutaneous injection of 175 to 220 gm. of a 2 per cent. solution of gelatin, repeated ten times in the course of two months, in case of a large aneurysm of the arch of the aorta and of the innominate artery. There was no local reaction, but the temperature rose, and five times a transient albuminuria was observed. The patient had entirely lost her dyspnea by the end of the treatment and could run and climb a mountain and do physical work. The relief was so marked that although the injections were painful, yet the patient clamored for them each time.—*Med. Obosrenye*, August.

Early Signs of Arteriosclerosis.—Cherchevsky states that in normal conditions the diameter of the aorta varies at different times. It becomes dilated if the region over the arch

is struck a few blows with the percussion hammer, while it shrinks in size if the blows are struck in the epigastric region. In case of arteriosclerosis it is impossible to produce these variations in the diameter. The aorta retains the same outlines at all times. Another sign of incipient arteriosclerosis is the lowering of the point in the back where the aortic sounds are most distinct. The subject sits astride a chair with arms crossed. In normal conditions, the maximum distinctness is perceived at the spine of the left scapula. In case of arteriosclerosis, the maximum is perceived at a point on a line between the angle of the scapula and the spinous process of the seventh dorsal, much lower than normal. Cury has been studying this sign which was first pointed out by Friedmann, and found it 89 times in 89 cases of arteriosclerosis, while he only noted it six times in a large number of presumably healthy persons, and 2 have since developed arteriosclerosis.

Mikulicz's Experiences with Carcinoma of the Stomach.—Out of 100 patients treated by resection, 17 per cent. are radically cured; 20 are still living, six months to more than eight years after the operation. The mortality was 37 per cent., and 25 per cent. in the last few years. The average survival is about a year, and patients succumb then usually to some internal, less painful and less distressing metastasis, in the ovary, bone or elsewhere. In 143 cases treated by gastro-enterostomy the mortality was 31.5 and 26 per cent. The patients survived five and a half months on an average, about thirteen and a quarter months after the first symptoms of the disease. Gastrostomy and jejunostomy proved to be merely palliative interventions, undertaken from humane reasons. The mortality after exploratory laparotomy was only 4.5 per cent., and the average survival was twelve months. Mikulicz concludes from these experiences on a total of 447 cases of carcinoma of the stomach observed during the last ten years, and all but 127 operated on, that resection and exploratory laparotomy are the preferable operations, while gastro-enterostomy is indicated only in case of stenosis of the pylorus with stagnation.

The Violet Cure for Cancer.—A paragraph has been going the round of the press, describing how a tumor of a tonsil, the diagnosis of which was "made certain by microscopic examination of a small portion removed," was "cured" by the application of a number of fomentations made from an infusion of green violet leaves. The patient, in gratitude of her recovery, has had printed some leaflets describing the mode of preparation and application of this infusion. We can fully enter into her feelings. She had suffered greatly for four months from a throat affection which was relieved by no treatment. She grew steadily worse and her life was despaired of. The diagnosis of "cancer" seemed to be confirmed by microscopic examination. Within a week of the application of infusions of violet leaves much of the swelling had disappeared and all pain had ceased, and in a fortnight the "cancer" of the tonsil had entirely disappeared. Overjoyed at her own recovery she hastens to make known to other sufferers the marvelous and simple method of treatment, ignorant that already many hopes of recovery have been founded on similar unsubstantial basis. The whole importance of the story depends on the accuracy of the diagnosis of epithelioma. All who are familiar with the clinical signs of a malignant disease of the tonsil can easily believe that it is not difficult to mistake deep-seated inflammation of the region for a malignant growth. As to the microscopic examination, the arrangement of the epithelium of a normal tonsil may easily resemble the epithelial down-growths of an epithelioma, and the resemblance is still more striking when chronic inflammation is present. The history of the case points to a very natural error of diagnosis. The violet leaf, by the way, figures not infrequently among the recipes of the old Anglo-Norman writers whose manuscripts are preserved in the British Museum. In modern pharmacopeias the violet is noted for its cathartic and emetic qualities, or, to speak more accurately, the Viola tricolor or pansy possesses these useful attributes. The dog violet also is vaguely recorded, in an old edition of Balfour's "Botany" (1854), to have been at some time or other prescribed for "skin disease." In the age of the Plantagenets monkish medical writers treated most diseases with the violet, whether dog, pansy, or sweet March they do not state. Intermingled with a multiplicity of other ingredients the modest flower was used to treat "a streytness of the hert," an illness akin, we may suppose, to dyspepsia. It was said to be good also for the stone, and if a broken fragment of bone had to be expelled from the flesh the violet, with other herbs, was considered most useful. Into these old medical mixtures the violet was always introduced in "a good handful" and we are at liberty to suppose that its pleasant perfume, in an age when contrasts were much insisted on, was supposed to work wonders against noisome suppurative ailments.—*London Lancet*, Nov. 23, 1901.

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Chicago, Dec. 18-19, 1901.

Seaboard Medical Association of Virginia and North Carolina.—The next annual meeting will be held in Norfolk, Va., December 17-19.

Tri-County Medical Association of Iroquois, Ford and Vermilion Counties (Ill.)—The annual meeting will be held at Paxton, December 30.

Des Moines Pathological Society.—At the annual meeting of this Society, held November 26, the following officers were elected: Dr. Crayke S. Priestley, president; Dr. Alva P. Stoner, vice-president; Dr. John F. McKitrick, secretary, and Dr. A. Raymond Amos, treasurer.

Eastern Oregon District Medical Society.—The physicians of Umatilla County and Eastern Oregon met for organization at Pendleton, November 27 and elected the following temporary officers: Dr. J. L. Miller, Pendleton, president, and Dr. T. M. Henderson, Pendleton, secretary.

Tyler County (Texas) Medical Association.—A meeting of the practicing physicians of Tyler County was held at Woodville, November 19, when an association was organized, to be known as the Tyler County Medical Association. Dr. William P. Chapman, Woodville, was elected president, and Dr. M. F. Bledsoe, Rockland, secretary.

Duluth-Superior Academy of Medicine.—At the annual meeting of the Academy held at the West Superior Hotel, the following officers were elected: Dr. William E. Ground, Superior, president; Dr. Alfred E. Walker, Duluth, vice-president; Dr. Patrick G. McGill, Superior, secretary and treasurer, and Dr. George H. Conklin, Superior, censor.

New Castle County (Del.) Medical Society.—At a recent meeting of the physicians of New Castle County, at Wilmington, it was decided to organize a county medical society. Drs. Joseph W. Bastian, James A. Draper, Jr., Wilmington, and Harry G. M. Kollock, Newark, were appointed a committee to prepare a constitution and by-laws, and to report at a subsequent meeting.

Northern Central Illinois Medical Association.—This Association held its twenty-eighth annual meeting at Dixon, December 3 and 4. Dr. John Ross, Pontiac, was elected president; Dr. Jane Reid Keefer, Sterling, first vice-president; Dr. William O. Ensign, Rutland, second vice-president, and Dr. George A. Dicus, Streator, secretary and treasurer. The next meeting will be held in Streator.

Minnesota Valley Medical Association.—The annual meeting of this Association was held at Mankato, December 3. The following officers were elected: Dr. William J. Mayo, Rochester, president; Drs. Franklin A. Dodge, Le Soeur, W. J. McCarthy, Madelia, and Edward W. Benham, Amboy, vice-presidents; Dr. Edwin D. Steel, Mankato, secretary, and Dr. George F. Merritt, St. Peter, treasurer.

Grand River (Mo.) Medical Society.—This Society met at Brookfield, Mo., December 5, and several papers of interest were read and discussed. The following resolution was adopted: "Resolved, That the Grand River Medical Society endorses the plan of medical organization as adopted by the American Medical Association and recommended to state and county societies; and that this society urges the Medical Association of the State of Missouri to adopt the plan at its earliest convenience." The following officers were elected: President, George W. Goins, Breckenridge; vice-president, Dr. Cantwell, Meadville; secretary, J. B. Eure, Brookfield; treasurer, J. L. Burke, Laclede, and curator, B. N. Stevens, Chillicothe.

Fox River Valley (Ill.) Medical Association.—The seventy-third semi-annual meeting of this Society was held at Aurora, November 26. Hon. Charles Page Bryan, minister to Brazil, and Dr. Daniel R. Brower, Chicago, were guests of honor. The following officers were elected: Dr. George E. Allen, Au-

rora, president; Dr. George J. Schneider, Elgin, vice-president, and Dr. Henry J. Gahagan, Elgin, secretary and treasurer.

Davenport (Iowa) Clinical Society.—Further steps toward the organization of this Society were taken at a meeting of physicians, and a banquet was held in the Kimball House, November 26, at which Dr. Clarence T. Lindley presided and Dr. Edward S. Bowman acted as secretary. There will be three grades of members, active, associate and honorary. Associate members will be medical students to whom no admission will be charged. The Society will embrace physicians of Davenport, Rock Island and Moline and of the adjoining counties. It is one of its purposes to establish a medical library.

UNIVERSITY OF CHICAGO MEDICAL CLUB.

Second Regular Meeting, held in the Hull Physiology Laboratory, Nov. 4, 1901.

DR. SIDNEY KUH presented the results of observations made in collaboration with Dr. Albert B. Hale. See "Mirror-Writing and the Inverted Image," THE JOURNAL A. M. A., No. 21, vol. xxxvii, p. 1380.

Law of the Innervation of the Frog's Leg.

DR. HENRY H. DONALDSON presented the following findings as evidence of an apparently simple law controlling the distribution of the medullated nerve fibers to the different segments of the leg of the frog (Rana virescens):

The data which are represented by the number of medullated nerve fibers in the various nerves of the leg are furnished by the investigations of Dr. Dunn, part appearing in a paper published under the title of "The Number and Size of the Nerve Fibers Innervating the Skin and Muscles of the Thigh of the Frog (Rana virescens brachycephala, Cope)," and part from a second investigation still in manuscript. In all both legs of three frogs have been examined. In the case of the first two frogs the observations apply to the innervation of the thigh and of the remainder of the leg, whereas in the third case the observations apply to the thigh, shank and foot of each leg.

It was shown, in the first place, that the number of medullated nerve fibers going to the thigh could not be determined by merely subtracting the number below the branches to the thigh from the total number above the branches, because some of the nerve fibers divided, and hence the number actually found in the branches was in excess of the number which had been estimated. In each one of the cases, six in number, this excess was determined and credited to the splitting fibers. With these data the attempt was made to find an hypothesis which should express the number of fibers actually observed to go to the different segments of the leg.

Tentatively, the simplest hypothesis was formulated, namely, that the ventral root fibers were distributed according to the weight of muscles in the different segments of the leg, and the dorsal root fibers according to the area of the skin. To test this hypothesis it was necessary to know, in the first place, the relative weight of the muscles and relative areas of skin in the several segments. By previous investigations these proportional weights and areas had been determined as follows:

TABLE 1.

	Relative Weight of Muscles. Per cent.	Relative Area of Skin. Per cent.
Thigh	64.0	36.5
Shank	24.3	24.9
Foot	11.7	38.6
Total	100.0	100.0

Fortunately the frog's leg does not change in form as it increases in size, and hence these percentages expressing the relative development of the different parts are independent of absolute size of the leg. To apply these percentages, it is necessary to know the relative abundance of the ventral root fibers and dorsal root fibers in the nerve supplying the thigh. This was determined at the level of the dorsal and ventral roots, where it was found that for every 100 ventral root fibers there were present 176 dorsal root fibers. Applying this ratio to the total number of fibers entering the thigh, it was possible to calculate the absolute number of ventral root fibers and the absolute number of dorsal root fibers there present, according to this ratio.

Next, the ventral root fibers were distributed according to the percentage of them called for by the weight of the muscles in the different segments of the leg, and similarly the dorsal root fibers were distributed in accordance with the area of skin. The numbers thus determined for each segment were added together, thus giving the total number of fibers which were, by hypothesis, to be expected in each segment of the leg. The next step was to determine the percentage value of these totals, and it was found that the proportion of the total number of fibers going to each segment was as follows:

TABLE 2.—Proportion of the total number of fibers to each segment of the leg.

	Per cent.
Thigh	46.3
Shank	24.6
Foot	29.1
Total	100.0

This gives us a statement to the effect that 46.3 per cent. of the total number of fibers entering the leg would be found distributed to the thigh and 24.6 per cent. to the shank and 29.1 per cent. to the foot. In each case it is to be remembered that the number of branching fibers is credited to the number which enter the segment of the limb and that the percentage is based on this sum. Under these circumstances the results are found to be as follows:

TABLE 3.

Frog.	Segment of leg.		No. of Medullated Fibers Observed.	No. of Medullated Fibers Calculated.	Differences Based on Observed No. Absolute.	Differences Based on Observed No. Per cent.
B	Thigh	r	2623	2542	+81	+3.0
"	"	l	2600	2580	+20	+0.7
C	"	r	2814	2862	—48	—1.7
"	"	l	2777	2860	—83	—3.0
II B	"	r	3508	3449	+59	+1.6
II "	"	l	3481	3446	+35	+1.0
II B	Shank	r	2130	2119	+11	+0.5
II "	"	l	2108	2106	+ 2	+0.1
II B	Foot	r	2497	2508	—11	—0.5
II "	"	l	2486	2492	— 6	—0.2

The very close approximation thus exhibited between the calculation and the number observed, completely supports the original hypothesis, and this leads to the formulation of the law in the following terms:

If the dividing fibers in each segment of the leg are taken into account, then the observed number of medullated fibers innervating a given segment of the frog's leg is equal to the number calculated on the hypothesis that the efferent fibers are distributed in proportion to the weight of muscle and the afferent in proportion to the area of the skin. It is to be noted in conclusion:

1. That this law at the moment is applied to the frog's leg only, and is not extended to higher vertebrates.

2. That although in the terms of this hypothesis the afferent fibers are distributed according to the area of the skin, yet this is by no means equivalent to the assertion that the afferent fibers are all cutaneous fibers, for we have every reason to think that very many of these fibers are distributed to other portions than the skin.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, held Nov. 7, 1901.

Dr. Herman Knapp, Vice-President, in the Chair.

The Causation of Multiple Neuritis.

DR. M. ALLEN STARR presented a paper on this topic. Speaking of arsenic, he said that arsenical multiple neuritis had often resulted from the use of toilet powders containing this substance, as well as from the inhalation of arsenic from colored wall-paper. He had himself seen a remarkable case exemplifying the latter source of arsenical poisoning. Ar-

senic had also been found in beer, having found its way into that beverage through the use of glucose made from sulphuric acid derived from pyrites containing arsenic. In these days when copper is so extensively used for electric purposes it was not unreasonable to find arsenic poisoning in workers who use copper containing arsenic as an impurity. In some factories, notably those making copper for electric purposes, it is found necessary to expel the arsenic from the copper. This is done by the application of heat, and although the fumes are conducted to the tops of tall chimneys the workmen are very apt to suffer from arsenical neuritis. Workers in potteries are apt to be affected by the lead used in the manufacture of these goods, and it should not be forgotten that lead is also an ingredient of the glaze found on earthenware kitchen utensils, and that in this way it sometimes gets into food. With the modern methods of making mirrors the danger of mercurial poisoning is largely eliminated, and it is rare indeed that multiple neuritis arises from the medicinal use of mercury. This metallic poison is, however, used in England for producing the gloss on silk hats, so that persons engaged in this industry may fall victims of mercurial poisoning.

Turning from this class of cases to those resulting from poisoning by non-metallic substances, Dr. Starr said that prominent among this group of etiologic factors stood alcohol, and it should always be borne in mind that it was not alone the quantity of alcohol imbibed but the individual susceptibility to the effects of alcohol that must be reckoned with. Coal gas was well known to give rise to neuritis, but it was not so generally known that the same is true of natural gas, and that neuritis has become much more common in districts making a general use of this gas for fuel. Now that the manufacture of rubber tires had become such an important industry in this country it behooved physicians to be on their guard for cases of multiple neuritis arising in rubber workers from inhaling the fumes of bisulphid of carbon. Neuritis may also arise from the use of certain drugs of the coal-tar series, notably from antipyrin, acetanilid, sulfonal, trional, and chloretone and trional.

Another important class of cases of multiple neuritis includes the neurites arising from toxemia, familiar examples of which were to be found in connection with diphtheria, grip, typhoid and typhus fever, scarlatina, measles, mumps, whooping cough, smallpox, pneumonia, gonorrhea, puerperal and other forms of septicemia. Some of the cases of neuritis thought to be directly dependent on typhoid fever were no doubt the result of the free use of alcoholic stimulants during the course of that disease. Neuritis may also arise in connection with various dyscrasias, such as rheumatism, gout, diabetes and arteriosclerosis. It is probable that syphilis is not generally a factor in the causation of multiple neuritis. There were in addition to the foregoing a certain number of cases of multiple neuritis that, because of our lack of knowledge, must still be classed as idiopathic.

DR. C. L. DANA said that he preferred to divide cases of multiple neuritis into three broad classes: 1, those due to toxic causes; 2, those dependent upon dyscrasias, and 3, those resulting from infection. Cases belonging to the third class were characterized clinically by motor phenomena, while those dependent upon dyscrasias were largely of the sensory type. Most persons afflicted with neuritis are neuropathic, and often a so-called alcoholic multiple neuritis was the result of a very moderate indulgence in alcohol together with the excessive use of tobacco. According to his own statistics, alcohol was the cause of two-thirds of all the cases of multiple neuritis, though in the class of women found in our hospitals tea-drinking is an important causal factor.

DR. B. SACHS deplored the growing tendency to diagnose cases of multiple neuritis as alcohol upon a very slender basis of fact. This diagnosis should not be made unless the neuritis coexists with other symptoms of chronic alcoholic poisoning. He had seen multiple neuritis in children living in the swampy districts of Long Island, and proved to be suffering from malarial poisoning. In only one instance had he met with syphilitic multiple neuritis, and in this one the diagnosis had been made purely by exclusion, and its correctness had been confirmed by the results of treatment. He was surprised that Dr. Starr seemed to think diabetic multiple neuritis so rare, for he had not found it so.

DR. FRED PETERSON remarked that in cases of alcoholic multiple neuritis there was often a peculiar mental state characterized by a loss of the sense of time and place. He reported, as an example of the uncertainty of action of chloretone in tablet form, a case in which a young girl had swallowed without appreciable effect 25 five-grain tablets of chloretone.

DR. JOSEPH COLLINS thought diabetic multiple neuritis was comparatively common; it had certainly been so in his experience at the City Hospital. He had met with several cases of tuberculous neuritis, and had seen three cases in which investigation had seemed to prove that the neuritis had resulted from lead poisoning, the lead having been taken into the system through the use of snuff that had been packed in a leaden casing.

DR. HERMAN KNAPP thought the term neuritis had been used in this discussion without any histologic basis for the implied existence of an inflammatory process. While it was true that an optic neuritis could be actually seen after the grip, it was not true that tobacco gave rise to any such inflammation in the eye, for, in cases of tobacco amaurosis one sees with the ophthalmoscope no evidence of inflammation, but only of an atrophy.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held Oct. 28, 1901.

The President, Dr. N. P. Dandridge, in the Chair.

Fetal Chondrodystrophy.

DR. ALBERT FREIBERG presented this case. It was noticed soon after birth that the child's thighs and legs were much bent and that they were apparently tender on manipulation. The same could be said of the upper extremities, although in less degree. An examination of the child showed none of the evidences of rickets in its classical form. There was no beading of the ribs; there was nothing abnormal in the formation of the skull and the tenderness of the long bones was not confined to the epiphyseal regions, but well marked over the diaphysis in each case. The child did not present any of the characteristics of congenital syphilis. It cried almost incessantly during the first two weeks of life, but afterwards seemed comfortable. The child disappeared from his observation and was not seen for several months, and then at the Jewish Hospital. Without having accurate measurements upon which to base the statement, it appeared to him that the child's extremities had not, at the time of the second examination, grown to a degree commensurate with the growth of the trunk. Aside from this he could see no change of importance. There seemed to him no doubt but that in this case there existed the rather unusual condition known as achondroplasia, or by the better term of chondrodystrophy. It is the condition which is now considered responsible for many of those examples of onanism with great deformity found in anatomical museums; it is a condition which runs the greater part of its course during intra-uterine life, for at birth the activity of the process has for the most part come to an end. The disease affects chiefly the long bones, therefore those developed from cartilage. Bones developed from membrane are rarely affected. Anatomically the disease consists of an interference with the activity of the epiphyseal cartilages. The periosteum retains its osteoplastic activity. It follows, therefore, that while the length is greatly reduced, the transverse diameter of the bone is practically normal. In rickets we have the bones of normal length with curvatures not much accentuated until they have borne weight; in chondrodystrophy, on the other hand, the bones are shortened, thicker than normal, and often greatly curved even at birth. According to Regnault, it is possible by the examination of the skeleton of the adult to say whether the condition which produced the deformity was rickets or chondrodystrophy. In chondrodystrophy the bone is shortened, thickened, and all of its normal prominences are exaggerated, but the bone is not

necessarily curved at all. In rickets the curvature of the bone is not accompanied as a rule by shortening. We are familiar with this fact clinically. According to Turner the essential anatomical change is located at the epiphyseal line. The columnar arrangement of cells normally present here in growing bone is defective or even absent; there is a fibrous ingrowth of periosteum at this point, so that cartilage cells can not develop into the normal osseous areolæ. The epiphyses increase, it seems, by irregular and excessive growth of the perichondrium. The periosteum continues to grow, and the bone is therefore much thickened and of irregular shape. Turner believes that the condition of rickets in utero is unknown and he therefore objects to the terms congenital and fetal rickets, it would appear, with much reason. The clinical importance of these cases of chondrodystrophy lies in recognizing the nature of the disease and its prognosis. It has been essayed to treat the condition by thyroid medication, but without result. These patients seem condemned to the condition of dwarfism, and it is well that the parents should be informed of this at not too late a period. If any attempt is made to overcome the deformity of the bones and particularly if the operative method is chosen, it should be made clear that they will be lengthened only, inasmuch as the curves are straightened, and they will nevertheless continue to be shorter than normal. It is otherwise conceivable that the shortening might be attributed to the fractures or osteotomies as the case may be.

Gunshot Wound of the Abdomen.

DR. N. P. DANDRIDGE said that the young boy came into the Cincinnati Hospital June 9, 1901, having shot himself only a few minutes before with his father's pistol. The pistol was a 32-caliber. There was an abdominal wound of entrance and a wound of exit, and the wing of the ileum was furrowed by the ball. The boy was brought into the hospital, and was considerably shocked, but not profoundly so. The pulse was accelerated, but not irregular, and was quite perceptible. Operation was decided upon at once, and the boy was on the table within an hour after the accident. The intestines were taken out and three wounds in the small intestine were at once discovered, two of these being within 3 or 4 inches of the point of entrance of the bullet. The loop containing the wounds was taken out and sutured. Upon further examination it was discovered that there was an opening into the stomach on the anterior wall and also one on the posterior wall. In the stomach was quite a quantity of semi-digested food, and there had been a slight amount of leakage from that organ. The wound on the posterior wall was smaller than that on the anterior and there was no eversion of the mucous membrane in this perforation as there was in the wound of the anterior wall. Four other perforations were discovered in the intestines, making seven wounds of the intestines, besides the wounds of the stomach. The point at which the bullet passed out of the abdominal cavity was not discovered. I make mention of this fact because I think from the sequela of the case that perforation of the large intestine may have occurred. The boy made a satisfactory recovery. The temperature on the day after the operation was 102, and after that ran along at about 100 until the 16th day, when it suddenly went up to 103, and there was a discharge from the external wound of a quantity of foul pus. Two days after the accident there was a discharge of blood from the bowel, which continued for several days. A sinus persisted at the point of entrance. This was opened up and a portion of the bone that had been injured by the passage of the bullet curetted. The wound then healed up promptly and the boy left the hospital on the 40th day after the injury. He is in perfect health and does not suffer from the wound.

Cardiac Specimens.

DR. O. P. HOLT presented a specimen of tumor of the ventricular wall of the heart, situated near the apex. The tumor was about the size of a small lemon, and microscopic examination showed that it was completely surrounded by muscular tissue. Examination also showed the mass was an organized blood clot; there was thrombosis of the anterior coronary artery and the latter was also very markedly sclerotic. The hemorrhage could be readily traced to the rupture of this artery. The symptoms of the case were those of organic incompetency of the mitral valves. The case was from an adult male, aged but 31. The pathological report was made by Dr. H. J. Whitacre.

DR. G. A. FACKLER presented, in this connection, a specimen of acute suppurative myocarditis in which the condition was unsuspected during life, the symptoms having been masked by a pneumonia.

DR. J. E. GREIWE presented a specimen of diseased heart in which there was a fibrous ring completely surrounding the aortic ring and extending up into the aorta. The beginning of the aorta was the seat of incipient aneurysm. The case was interesting in connection with Dr. Holt's, showing two distinct phases of relative incompetency, yet both dependent upon underlying arterio-sclerotic processes.

MEDICAL SOCIETY OF RUSH COLLEGE.

Regular Meeting, held Nov. 4, 1901.

Pathological Specimens.

DR. LUDVIG HEKTOEN presented the following two specimens: 1. Stricture of membranous urethra, ascending gangrenous inflammation of the entire urinary tract: The stricture was located a few centimeters from the meatus. Owing to the obstruction great dilatation of the bladder, the ureters and the renal pelves had resulted, followed by a violent necrosis and gangrene of the entire mucous membrane, which presented a rough, shreddy and dirty grayish appearance. There was present in characteristic form the necrosis of the apices of the medullary pyramids seen in recent dilatation of the renal pelvis and attributed generally to pressure. At the autopsy (Dr. Wells) the turbid, foul urine in the bladder was covered by a layer of liquid fat, which probably came from the extension of the destruction to the fat at the hilum of the kidneys. No other source for the fat was found. The patient entered the Cook County Hospital in coma and died soon after so that exact facts as to the previous occurrences were not obtainable.

2. Healed ulcerative endocarditis of the aortic valves: Two specimens were presented of hearts, in each of which one aortic valve showed a large rounded perforation, with smooth but thick and sclerotic margins, about 1 cm. in diameter, situated in the substance of the valve between the line of closure and the base. There was in each case general sclerosis and deformity of the aortic valves, the result of endocarditis, and in one case an acute destructive process was engrafted upon the chronic. The size, the location, the character of the margins of the perforations as well as the several scleroses of the valves led to the conclusion that it concerned healed ulcerative processes, which probably had caused valvular aneurysm with perforation, and that the specimens afforded anatomic evidence of the healing of ulcerative endocarditis, a possibility the occurrence of which is supported by clinical observations.

Two Cases of Ocular Paresis Presenting Unusual Clinical Pictures.

DR. F. C. HOTZ said that paralysis of any ocular muscle causes a deflection of the visual line of the affected eye (strabismus) and diplopia, which is especially noticeable when the eyes are turned in a direction requiring the co-operation of the affected muscle. Under ordinary circumstances these symptoms (strabismus and diplopia) make correct diagnosis an easy task. But the diagnosis becomes a perplexing problem if the patient prefers using the affected eye, perhaps because it has much better vision than the other eye, or for some other reason; for as soon as the affected eye is made to look straight the other eye will show a marked strabismus. In these cases the diplopia tests are exceedingly valuable for the diagnosis. To illustrate, he described the following cases:

CASE 1.—Salesman, 37 years, presented himself with a marked convergent squint of the right eye and homonymous diplopia, which had come on about two weeks ago; cause unknown. Apparently paralysis of the externus of the right eye;

but the double images came together when the light was moved to the right, and they separated when it was moved to the left. Homonymous lateral diplopia indicates paralysis of the externus and the separation of the images towards the left points to the externus of the left eye as the affected muscle. The diagnosis was confirmed by the fact that the abduction of the right was normal, while the abduction of the left eye was greatly restricted.

CASE 2.—A workman, age 38, was struck over the left eye and six weeks later began to see double. The left eye is straight, the right eye is turned down and in. It looks as if the right eye could not be turned up—paralysis of its superior rectus or inferior oblique—but the diplopia test shows the image of the right eye above and to the right of the image of the left eye, the images separating in the upper field and coming together in the lower field. This test plainly shows that the downward movement of one eye is restricted, hence that the affected muscle is one of the depressors—inferior rectus or superior oblique. Homonymous images point to the superior oblique and the image of the left eye, being lower, points to the left eye. Hence the correct diagnosis is paralysis of the superior oblique of the left eye.

Epitheliomata.

DR. WILLIAM H. WILDER showed a man, 71 years of age, who, seven years before, had had an epithelioma removed from the lower lip. A short time ago, epithelioma developed in the upper inner part of the right orbit, involving the eyeball. The case is under treatment by Dr. Pusey with the *x*-rays.

He also showed a case of a man, 51 years of age, from whose right cornea he had removed an epithelioma. Recovery of perfect vision followed the operation. He also showed two specimens of epithelioma of the cornea, one of which was situated on the limbus and the other wholly within the cornea.

Sarcoma of Iris.

DR. A. B. HALE presented a case of a young woman of 22, from whom he had removed a sarcoma of the right iris. The tumor was detected less than three weeks after symptoms of pain had appeared and had been promptly excised—seemingly in a capsule. The microscope confirmed the diagnosis, and the history of the case, together with the subsequent behavior of the eye, which was now, six months after the operation, perfectly normal, indicated a primary sarcoma of the iris without recurrence. (Microscopical specimens were exhibited.)

Dr. Hale also demonstrated an eyeball enucleated 60 hours after a penetrating wound with a piece of steel from a hammer. The path of the foreign body through the lens to a bed in the choroid anterior to the equator was plainly visible. The eye had shown no inflammatory reaction, but an *x*-ray photograph was positive. He acknowledged the progress made during recent years in diagnosis and treatment without the destruction of the eyeball, of such cases, but in view of this patient's age, namely, 77, and the unavoidable danger from delay, enucleation had been promptly done with the full consent of the patient.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting, held Nov. 12, 1901.

Ectopic Pregnancies.

DR. J. HENRY BARBAT exhibited some pathological specimens. The first specimen was one of a "Tubal Pregnancy Resembling Appendicitis," in a woman 19 years of age, who menstruated at the regular time, but suffered unusual pain in the lower part of the abdomen. After flowing the regular number of days she ceased for four days and then began again, the flow coming on with sudden pain in abdomen; vomiting and tenderness over the right side; bimanual examination was negative; uterine scrapings did not show any decidual cells. The day after curetting laparotomy was performed and the appendix found coiled under the cecum and presenting a peculiar thickening near the distal end, which was cicatricial due to an appendicitis obliterans. The right ovary and tube were palpated and found normal, the left ovary was normal and the left tube, which could only be felt for about three-fourths of its distance, was apparently free and did not feel larger than the right. No blood was found in the pelvis, so the abdomen was closed. Occasional attacks of pain followed the operation, and two weeks subsequent an exceedingly tender mass was detected on the left side of the uterus. The patient had slight flow ever since the curetting and another laparotomy was performed when the pelvis was found full of blood clots with the left tube distended at its distal end and bleeding through a rupture close to the fimbriated extremity, which was removed close up to the uterus. A fetus, at least seven weeks old, was found in the blood clots. Recovery was uneventful. The case illustrated the difficulties which sometimes present themselves in ectopic pregnancy, and showed how much suspicion must be attached to a renewal of the menstrual flow after it had stopped for several days, especially if it continued and was accompanied with pain and tenderness in the abdomen.

The second specimen was also one of "Tubal Abortion" and was the result of operation on a woman 28 years of age who forty days after her last menstruation, flowed for two weeks. This ceased for three or four days and then began again; she had intermittent attacks of pain which, on one occasion was so severe that it made her feel faint. Physical examination revealed a mass three inches in diameter in the cul-de-sac, very tender and evidently connected with the right side of the uterus. Tubal abortion was the diagnosis and operation done the next morning. The pelvis was filled with a soft boggy mass, strongly adherent to the posterior wall of the uterus, and which proved to be the right tube, and was removed, leaving about one inch of normal tube. The left tube was adherent and thickened at its middle, occluding its lumen and so was removed also. The patient went home at the end of three weeks perfectly well.

The specimen from the right tube proved to be a tubal pregnancy in the seventh or eighth week and had been extruded from the end of the tube with the placenta and a large clot of blood, which was still strongly adherent to the fimbriated extremity.

President's Address.

DR. GEORGE H. EVANS, the retiring president, read a paper in which he made some recommendations for the future policy of the Society. The work done by the Society during the past year, which was very satisfactory, was then reviewed. The plan of having two or more papers, taking up different phases of the same subject, was commended, but it was to be hoped that in the future more attention would be paid toward getting clinical reports. The increase in membership had been satisfactory. The membership at the present time being 37 per cent. of the entire regular registration of the county, which the writer thought was a larger proportion than existed in any large city in the country. The membership could be increased very materially if the method by which applicants gained entrance was changed. Membership should depend either on a majority vote of the Society or on the vote of the Committee on Admissions alone. The co-operation of the smaller local societies could also increase the membership. There should be no rivalry between this body and any other local societies, for their purposes were not identical. Membership in the others should be contingent on membership in the County Society. All methods whereby membership could be increased, should be urged, for it was only through the thorough organization of the County Society that the beneficent objects of the reorganization plan of the American Medical Association can be consummated and the profession united into "a compact organization reaching into every county in the Union." Harmonious action between this Society and the Committee on Reorganization of the State Society was urged. Attention was called to the value of the library, which was not used by the members as much as it should be. A great many additions had been made during the year, but more journals, especially foreign ones, were needed; also such textbooks as were beyond the reach of some of its members. The writer thought that a larger proportion of the funds should be used freely for this purpose. A change in the constitution

should be made, providing for a standing committee on public health, which should take up measures looking toward the education of the laity in such matters. This he thought was clearly one of the duties of medical societies which had been too much ignored in the past. Such a committee could also undertake an investigation of the milk supply, after the plan of the Milk Commissions of the Philadelphia Pediatric Society and the New York County Medical Society. Such work was needful. A committee of medical legislation should be also created. The state medical bill which recently passed the legislature had been strongly opposed, and such legislation should have an active committee in the Society to protect and father it; for those whose selfish interests were adversely affected by this bill would undoubtedly be interested and watchful for an opportunity of seeing it repealed or amended. Medical charities and medical contract work should engage the serious attention of the Society, for their effects had proven pernicious.

The following officers were elected for the ensuing year: President, John C. Spencer; first vice-president, R. L. Rigdon; second vice-president, M. Krotozyner; recording secretary, W. F. Barbat; treasurer, F. R. Dray; librarian, Vard H. Hulen.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting, held Oct. 22, 1901.

The President, Dr. H. G. Wetherill, in the Chair.

Tuberculosis in Colorado.

DR. S. E. SOLLY, Colorado Springs, spoke on this subject. He said the first case of tuberculosis originating in Colorado was brought to his attention some years ago by Dr. Meigs, of Philadelphia, who had a patient, a miner, under his treatment in the Philadelphia Hospital. He himself has seen only one case. It was in a boy, 17 years old, who lived in Colorado for seven years. There was no tuberculosis in his family. He had no doubt that the disease in this case originated in Colorado. He had seen in consultation a child that suffered from meningitis and tuberculosis of the lungs. Neither the neighboring children nor the parents suffered from tuberculosis. He knows of another case, a plumber, who hired a helper suffering from consumption of advanced stage. The plumber slept with his help in the same bed. Eighteen months after the first hemorrhage he died. Dr. Solly recited several other cases of tuberculosis, originating in Colorado, which were mentioned to him by Drs. Strickler, Nash and others. He is convinced that tuberculosis can develop in Colorado. He believes the germ of tuberculosis is omnipresent, and can be developed under favorable conditions. No matter that indigenous cases are but few in Colorado, it is still a question to which the profession should devote a great attention. He believes registration to be a good thing, but the disease spreads not alone from private houses, but from hotels, workshops, offices, etc. All efforts should be directed toward educating the people in matters of public and private sanitation.

DR. J. N. HALL said that he reported five cases of tuberculosis originating in Colorado some five years ago. Since that time he has seen fifteen cases during his service in the County Hospital, the clearing house of consumptives.

DR. WM. P. MUNN related the history of three cases originating in Colorado: A man in perfect health who developed tuberculosis of the spine and then of the lungs after his tuberculous nephew sojourned in his house for one year. The other was a young woman who developed tuberculosis during her pregnancy. The infection in her case was traced to carpets bought of a tuberculous patient. The third case was a woman who worked in a store in proximity to two men suffering from tuberculosis. As to prophylaxis, every man has a right to seek a place where his health will be restored, but society has a right to demand of him to conform to conditions which tend to lessen the danger of infection.

DR. G. E. TYLER had seen during the last three years about 10 cases of tuberculosis originating in Colorado. While filing the mortality statistics of Colorado he noticed that the majority of the indigenous cases originate not in large cities, but in mining camps. He made some investigations and ascertained that these cases begin as miner's consumption and become eventually tubercular. It is said that it is caused by the material used in blasting.

DR. C. B. RICHMOND said that during the early period in Colorado the miner worked at the surface. Now a depth of 2000 feet is reached. The miner passes eight hours underground, eight hours in the saloon and eight hours in a small, dirty and ill-ventilated room. It is lack of oxygen that causes trouble in the tenement houses as in the camps.

DR. E. P. HERSHEY related a case in which direct exposure could not be traced. A lawyer in opulent circumstances with no bad habits came down with what was at first believed to be typhoid fever, but proved eventually to be rapid consumption.

DR. LEONARD FREEMAN encountered a case of tuberculosis of the testicle in a ranchman, which developed in Colorado.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

PRESCRIPTION WRITING, V.

(Continued from p. 1556.)

The frequency of administration, which is the third important point mentioned above, will be more conveniently considered later along with the fugitive and cumulative action of drugs.

Idiosyncrasies Toward Drugs.

As a rule male patients bear larger doses of medicine than female. However, in either sex idiosyncrasies are manifested when certain drugs are given. For the sake of illustration, mention may be made of certain untoward symptoms produced by the following drugs:

Quinin sulphate produces very readily, in some individuals, the pronounced ringing in the ears, in others nausea, and in others again it produces a marked eruption over the body. The hydrobromate of quinin is sometimes tolerated in such cases as the above, and by giving the bisulphate hypodermically the nausea can be eliminated. We speak of giving the quinin bisulphate hypodermically because it is the most soluble salt of the alkaloid, being soluble in about 15 parts of water.

Potassium iodid can not be tolerated by certain susceptible individuals, as it causes headache in some, and in others the marked eruption on the skin even though given in small doses. It may be accompanied by other symptoms of iodism.

Strychnin sulphate induces occasionally an increased degree of nervousness; susceptibility is rare when we consider that in the form of nux vomica it is given as much or more than any other drug in the pharmacopeia.

Arsenic also has to be carefully administered and the patient closely watched on account of poisonous symptoms developing in certain cases after the use of even very small doses of the drug. Vomiting may occur, due to its effect upon the stomach. Arsenic is better tolerated when prescribed in the form of Fowler's solution and given well diluted in water.

Cocain, when applied locally to the membranes of the nose or mouth, even in dilute solutions, will cause dizziness and fainting in some cases, whereas 10 per cent. solutions may be applied several times in others with scarcely more than a full sensation in the head.

Opium may act in various ways. This may be due to the fact that it has many alkaloids, the three most important of which are codein, morphin and thebain, each having an entirely different action. As Brunton puts it, they form a chain, at one end of which is a convulsant and at the other a powerful hypnotic. Thus, some susceptible individuals may be peculiarly influenced by the convulsant and others by the powerful hypnotic.

Chloral is another drug which although physiologically a

sleep-producer will in certain cases bring on delirium and general cerebral excitability.

The administration of iron in its different forms may produce a sensation of fulness in the head which is an unpleasant feeling to the patient.

Dwelling a little longer on the idiosyncrasies, it will be of interest to relate the action of some of the foregoing drugs on animals as contrasted with their action upon the individual. This is due in the majority of cases to the lack of development of the nerve centers and nervous system generally in animals. The general class of emetics will not produce vomiting in the rodent animals. A rabbit is not susceptible to effects of morphin, it being capable of withstanding thirty or forty times the amount of the human adult dose. Atropin exercises no influence on the heart of the rabbit. In birds, in which the temperature is much higher than in mammals, morphin produces no hypnotic action, but it has a marked antipyretic effect. Snails are said to withstand much larger doses of strychnin than man, easily explained, however, on account of the low developed nervous system in that mollusc.

(To be continued.)

Treatment of Stricture.

It has been recommended by Bazy, in *Med. Rec.*, to apply the following in treatment of stricture:

℞.	Potassii iodidi	℥i	4
	Lanolini		
	Ung. aq. rosæ, āā	℥iv	16

M. Sig.: Apply for five minutes daily to the perineo-bulbar region.

Treatment of Alopecia Areata.

Laboraud, in *Jour. des Pract.*, recommends that the head be shaved, followed by frictions with a medium toothbrush moistened with the following:

℞.	Hydrarg. chloridi corros.	gr. iii	20
	Acidi acetici	gr. xxx	2
	Alcoholis	℥v	160
	Etheris (officinalis)	℥i	32
	Saponis (coal tar)	℥i	32
	Salol	gr. viiss	5

M. Sig.: Apply locally with friction.

In case of increased activity, at any point, the part should be touched with a pledget of cotton moistened with the following:

℞.	Acidi acetici	gr. xi	70
	Chloralis hydratis	gr. lxxv	5
	Etheris (officinalis)	℥i	32

M. Sig.: Apply locally.

Treatment of Goiter.

Dr. A. Meyer, as noted in *Deut. Aertzt. Ztg.*, states that since iodin has been recommended in sclerosis of the middle ear, he thought he would give it a trial in this affection. The patient had besides ear trouble, an enlarged thyroid gland the size of one's fist. While no improvement could be noticed in the ear affection, the goiter at once began to diminish until it disappeared altogether. He then tried it in another case with as good results. The 10 per cent. iodipin was given in teaspoonful doses three times a day. No untoward effects from its administration were noticed.

Treatment of Simple Chancre.

The following is recommended by Hallopeau and Lereddi, according to *Amer. Med.:* The chancre should be washed with hot sodium bicarbonate solution. All crusts and pus should be removed and the surface cauterized with the following:

℞.	Alcoholis (60 per cent.)	℥iiss	10
	Acidi carbol.	gr. xv	1

M. Sig.: Apply locally every second day.

Or

℞.	Zinci chloridi	gr. xxx	2
	Aq. destil	℥v	20

M. Sig.: Apply locally and repeat in two days.

The dressing should be completed by an application of iodoform, bismuth, salicylate or bismuth subgallate. If phimosis exists, the patient should be instructed to inject an antiseptic wash between the prepuce and the glans several times a day, and especially after urinating. For this purpose, solutions of corrosive sublimate, 1 to 200, may be employed. The washings should be followed by an injection of liquid vaselin saturated with iodoform.

Treatment of Otorrhea.

The following is recommended by Botey, as stated in *N. Y. Med Jour.*, for the treatment of otorrhea:

℞.	Ferri chloridi	℥ss	2
	Alcoholis	℥i	4
	Aq. destil	℥i	4

M. Sig.: Three or four drops to be instilled into the external auditory meatus two or three times daily.

Treatment of Tonsillitis.

The following is advised by Dantzler in *Med. Record:*

℞.	Tinct. guaiaci ammon.	℥vi	24
	Tinct. cinchonæ co.	℥vi	24
	Pot. chloratis	℥ii	8
	Mellis	℥vi	24
	Acaciæ, q. s.		
	Aq. q. s. ad	℥iv	128

M. Sig.: A teaspoonful used as a gargle in a little water three or four times a day, and swallowed one-half to one teaspoonful three times a day.

Orthoform to Mitigate Odynophagia.

Dr. S. Solis-Cohen, Philadelphia, states that for temporary relief of the pain attending inflammatory and ulcerative affections of the throat, orthoform applied in various ways is probably the best agent now at our command. For two years he states that he has been using lozenges containing from grain 1/8 (.008) to grain 1 (.06) each of orthoform in cases of acute and subacute sore throat (tonsillitis, pharyngitis) whether of rheumatic or other origin, and in cases in which pain in swallowing has been caused by ulceration or infiltrative conditions involving the epiglottis and arytenoid eminences. In some cases adrenal extract has been used at the same time. He states that this treatment has afforded such relief as to enable the patient to eat with comparative ease. The improvement has been especially noticeable in cases of tubercular laryngitis in which he prescribed the orthoform lozenges ten minutes before meals; it permitted the patient to take the food with a minimum discomfort. The advantage of the lozenge over insufflation or other methods of application is that the patient can himself make use of the analgesic agent.

Medicolegal.

Liability of Physician in Local Option Territory.—The Court of Criminal Appeals of Texas says, in McLain vs. State, that the legislature, as it holds that it had a right to do, has provided that for medicinal purposes intoxicants can only be sold upon a prescription certifying that a regular physician signing the prescription has personally examined the party to whom the prescription is given, and that he is actually sick; and he must certify these matters upon his honor. This is the character of prescription required by the legislature. There is no kind of prescription authorizing the sale, except that provided by statute, and it is not a prescription until it has complied with the law. Where a sale occurs, an illegal prescription is no protection to the seller or the physician, because in that event the physician makes himself a party to the sale by giving an illegal prescription by means of which the law is evaded. As in misdemeanors all are principals, so, when a physician gives an illegal prescription under which a sale occurs, he is as much responsible for the sale as is the seller. Whenever a sale in a local option territory is brought about by means of an illegal prescription, the physician and seller are both liable. Each is required to know the law; each is required, in order to bring about the sale, to comply with the terms of the law; and, in failing, both are liable for the punishment prescribed for illegal sales. The court adds that it is not discussing the attitude of the physician who gives a false

certificate, though in exact terms of the law. He may be guilty of the sale. In this case the court holds that a prescription was properly excluded because not in conformity with law, having omitted the expression "personally examined," and the certificate upon honor, required by the statute.

Mental Soundness of Eddyites.—The Surrogate's court of New York County holds, in re Brush's will, that, however opposed the teachings of "christian science" may be to the beliefs or notions of others, being founded on the religious convictions of those professing them, the court can not say that those persons who hold them are mentally unsound, the truth or falsity of a religious belief being beyond the scope of a judicial inquiry. Thus, the court says it has often been asked to pass upon the falsity of spiritualism, and to hold that a follower of that faith, which, like Eddyism, is contrary to the convictions of most men, was of necessity laboring under an insane delusion; but it has uniformly refused so to declare or hold. The only question which concerns the court, in determining the testamentary capacity of a "christian scientist," is as to the effect of the belief in it on, say, his or her mind, the belief itself not being any evidence of insanity. Did it unseat her judgment, dethrone her reason, and thus deprive her of capacity to make a will? If it did; if, by reason of the effect of this belief on her mind, she became the victim of insane delusions, from which her will resulted, then the will must be set aside. But, in this case, the court is of the opinion that the decedent was of sound mind at the time she executed the will contested.

Opinion Evidence on Survivorship—Presumptions.—In the case of Southwell vs. Gray a husband and wife were found dead in the same bed at their home. The Supreme Court of New York, special term, Erie County, says that death in each case was due to natural gas poisoning. Both were alive on the preceding night. It was assumed that the inhalation of poisonous gases, which escaped during the night from a stove in the room, burning natural gas, effected their death. Upon the trial an effort was made to establish that the husband died first. Evidence was given as to the physical condition in life of each of the deceased persons, the postmortem appearance and condition of the bodies, and the position of the bodies when found with reference to the stove and the windows and walls of the room, and a hypothetical question embracing the facts so testified to was submitted to several physicians for their opinion as to who survived. The physicians called by the one side expressed the opinion that the husband died first. An equal number of physicians called by the other side testified that it was impossible upon such data to express an opinion upon the subject of survivorship with any reasonable certainty. The court, after careful consideration, but without discussing the reasons assigned by the various medical witnesses for their answers to this question, reaches the conclusion that it would be mere conjecture, surmise, and speculation to essay the decision of survivorship in this case upon such testimony. Wherefore, it holds that the case must be determined upon the assumption that there was no proof to decide which of these individuals predeceased the other. Under such circumstances the civil law, the court goes on to explain, indulges in presumption based on age and sex to aid in determining the survivorship of persons perishing in a common disaster. The common law, however, recognizes no presumptions on the subject. In the absence of evidence, the fact is assumed to be unascertainable, and a rule of distribution has been adopted whereby property rights are disposed of as if death occurred simultaneously.

X-Ray Photographs—Notice of Taking.—The Supreme Court of Wisconsin holds, in the personal injury case of Mauch vs. the City of Hartford, that the rule in regard to the use of ordinary photographs upon the trial of a cause, for the better understanding by the jury of the evidence or the merits of the case, applies to photographs taken by the aid of *x*-rays. Whether a photograph is proper or not in any particular situation upon the trial of a case is a matter within the sound discretion of the trial judge, and his determination can not be disturbed if there was any reasonable ground therefor. Here, a surgeon who qualified as an expert as regards taking *x*-ray photographs, testified to having examined the bones of the injured party's arm, wrist and hand by the *x*-ray process, and taken two photographs thereof which correctly represented such bones. The witness produced the photographs, and they were offered and received in evidence against the city's objection. The ground of the objection was that the photographs were not taken upon notice to the city or its counsel. The Supreme court, however, says that it knows of no rule rendering notice of the taking of a photograph, to be used by one party on the trial of a cause, to the adverse party, so that the latter may be represented at the time of such taking, essential to its reception in evidence. The use of photographs in the trial of causes for some purposes, and among them that of exhibiting for the better understanding of the jury particular objects, is permissible where there is some substantial reason therefor. The purpose of exhibiting a photograph to court and jury is to enable them to more clearly understand the appearance of a particular locality or object material to the litigation than could ordinarily be expected from mere oral descriptions and explanations, such purpose is legitimate and warrants the court, in the exercise of its discretion, in permitting the use thereof in evidence. That situation exists where it is necessary for a non-expert to understand the complicated structure of the human anatomy and the existence in the human body of foreign substances, or of any abnormal condition. That has been several times recognized by courts since the discovery of the *x*-ray process of laying the human frame bare to the eye and transferring the appearance thereof by the photographer's art, as in ordinary cases of photographing objects. It is the duty of courts to use every means of discovering the truth reasonably calculated to aid in that regard. In the performance of that duty, every new discovery, when it shall have passed beyond the experimental stage, must necessarily be treated as a new aid in the administration of justice in the field covered by it. In that view courts have shown no hesitation, in proper cases, in availing themselves of the art of photography by the *x*-ray process.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), November 30.

1 *The Diagnosis of Gallstones and Their Aberrances. Charles G. Stockton.
2 *Features Determining Permanency of Cure in Radical Operations for Hernia. A. J. Ochsner.
3 *The Neurasthenic Spine. Robert W. Lovett.
4 *Some Thoughts on Rheumatism and Rheumatic Simulants. James J. Walsh.
5 Diagnosis of Diseases of the Urinary Bladder. John R. Wathen.
6 Shall Massage of the Stomach Be Recommended? A Study of Six Cases. (To be concluded.) Mark I. Knapp.
7 *Tuberculosis of the Sacroiliac Joint, Its Diagnosis and Treatment—Demonstration of a Patient with Sacrocoxalgie Fruste (Delbet). C. O. Thienhaus.

Philadelphia Medical Journal, November 30.

8 Splanchnoptosis. (To be continued.) Byron Robinson.
9 A Case of Pistol Shot Wound of the Stomach, Liver and Transverse Colon, in a Pregnant Woman. Recovery and Delivery at Term. Andrew B. Gloninger.
10 *The Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland, Derived from a Summary of 888 Operations by 48 Operators. (Continued.) Orville Horwitz.
11 *The Early Recognition and Management of Arterial Degeneration. Louis F. Bishop.
12 A Case of Poisoning with Oil of Cedar. J. T. Clegg.

Boston Medical and Surgical Journal, November 28.

13 One's Health in Egypt. (To be continued.) F. Gordon Morrill.
14 Hernia Epigastrica and Fatty Tumors in the Epigastrium. Howard A. Lathrop.
15 Abscess in the Posterior Mediastinum in Connection with Pott's Disease. Joel E. Goldthwait.
16 *Pathological Lesions in Rheumatoid Arthritis. C. F. Painter.

17 A Case of Papillary Adenocystoma of the Thyroid Gland. Harry C. Low.

Medical News (N. Y.), November 30.

18 *Courvoisier's Law. Richard C. Cabot.
19 Report of a Case of Diaphragmatic Hernia. H. D. Howe.
20 *Some Observations, General and Technical, Made at the Craig Colony. Smith E. Jelliffe.
21 Recent Epoch-making in Medicine—Annual Oration Delivered Before Michigan State Medical Society. Samuel Bell.
22 Deformity Arising from Injury to the Lower Epiphysis of the Tibia. B. E. McKenzie.
23 *Dangers to Public Health and Morals, Especially to Young Persons, from Quackery, as Promulgated by Public Advertisements. E. Stuver.

Medical Record (N. Y.), November 30.

24 *Vaginal Cancer. W. Roger Williams.
25 Various Methods of Infant-Feeding—Breast Feeding—Bottle Feeding. Louis Fischer.
26 *On the Presence of Typhoid Bacilli in the Blood of Typhoid-Fever Patients. Albion W. Hewlett.
27 *A Device for Irrigating the Male Bladder. U. S. Bird.

New York Medical Journal, November 30.

28 *State and Individual Prophylaxis of Tuberculosis During Childhood, and the Need of Children's Sanatoria. S. A. Knopf.
29 *The Blood in Infancy and Childhood. Gertrude U. Light.
30 The Daily Medical Inspection of Schools. (Continued). D. S. Lamb.
31 Frost-bite of the Cornea, Due to Exçessive Application of Cold in the Treatment of Mild Mucopurulent Conjunctivitis in the Newborn. E. L. Meierhof.
32 *Cholecystectomy for Gallstones. C. L. Gibson.
33 Fifty Years of Medicine: A Retrospect of Progress During the Past Half Century. T. Gaillard Thomas.
34 How Do You Use Quinin for the Prevention and Cure of Malarial Disease, and What Other Treatment Do You Employ? (To be continued.) W. P. McIntosh and P. M. Ashburn.

Cincinnati Lancet-Clinic, November 30.

35 Catching Cold. Dudley S. Reynolds.
36 *Neuralgia of the Rectum. Geo. J. Monroe.
37 The Physician in His Relation to the Prevention of Tuberculosis. C. O. Probst.

St. Louis Medical Review, November 30.

38 *The Development of Railway Surgery and Other Topics. G. G. Cottam.
39 Acute Intestinal Obstruction. S. A. Spilman.

American Practitioner and News (Louisville, Ky.), November 15.

40 Uses and Abuses of Arsenic. F. C. Simpson.
41 Rupture of the Uterus. Nevil M. Garrett.
42 British Congress on Tuberculosis. Benjamin Floyd.

Northwestern Lancet (Minneapolis), November 15.

43 *Hemorrhoids. Arthur T. Mann.
44 Observations on Canadian Surgery. W. J. Mayo.
45 A Report of the International Congress of Nurses. Cornelia Coleman.

Pediatrics (N. Y.), November 15.

46 *A Peculiar Outbreak of Diphtheria and the Results of Its Investigation. Marshall O. Leighton.
47 *Some Clinical Aspects of the Recent Epidemic of Diphtheria in Essex County, New Jersey. Richard C. Newton.
48 The Bloodless Reduction of Congenital Hip Dislocations. Walter G. Stern.
49 Complications and Sequelæ of Typhoid Fever. J. M. Krim.

Kansas City Medical Record, November.

50 Report of a Case of Grave Anemia. J. S. Triplett.
51 Hasty Summary of a Few Things That May Be Learned on an Examination of the Blood. M. P. Overholser.
52 Report of Fifteen Operations for Inguinal Hernia—Bassini Method. W. J. Frick.

International Medical Magazine (N. Y.), November.

A SYMPOSIUM ON THE TREATMENT OF APPENDICITIS.

53 *Seven Practical Questions on This Important Subject.
54 President of the American Medical Association Advises Conservative Course Except in Threatening Cases. John A. Wyeth.
55 *When in Doubt, Operate. Roswell Park.
56 *Prompt Operation Nearly Always When Practicable. Robert T. Morris.
57 *Cathartics and All Food by Mouth to Be Avoided in Severe Cases. A. J. Ochsner.
58 *All Cases Should Be Operated Sooner or Later. J. B. Murphy.
59 *An Internist's Views as to When Operative and When Non-Surgical, Treatment Is Best. Charles G. Stockton.
60 *In Mild Cases and Certain Stages of Severe Ones, Wait, But Watch. De Forest Willard.
61 *Removal of Appendix Best, Except When Symptoms Declining. Edwin Martin.
62 *Colonic Lavage in Early Stages. Fenton B. Turk.
63 *Immediate Operation Best in Most Cases, with Important Exceptions. Maurice H. Richardson.
64 Some Practical Points in the Treatment of Appendicitis. A. J. Ochsner.
65 The Differential Diagnosis of Scolecitis (Appendicitis). A. L. Benedict.
66 Medical Aspects of Appendicitis. Willis E. Ford.
67 Diagnosis of Appendicitis from Inflammation of the Gall-bladder. Gwilym G. Davis.

Dominion Medical Monthly (Toronto), November.

68 Appendicitis. J. C. Davie.
69 Recognition and Treatment of Tuberculosis. C. J. Fagan.
70 Labor Following Amputation of the Cervix. Russell Thomas.

Canadian Practitioner and Review (Toronto), November.

71 *Tumor of Hair, Weighing 1 lb. 7 oz., Two Feet in Length, Removed from the Stomach of a Woman, with Recovery. Herbert A. Bruce.
72 Intestinal Obstruction from a Surgical Standpoint. J. P. Rutherford.
73 The Fear of Death. David C. Wilson.

Merck's Archives (N. Y.), November.

74 Neurasthenic Urethritis: Its Preventive and Curative Therapy. J. M. Thompson.
75 *Stypticin in Uterine Hemorrhage. H. J. Boldt.
76 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.
77 *Brief Notes on Thiocol and Dionin. Jas. B. Johnston.

Albany Medical Annals, December.

78 Address, Albany College of Pharmacy. Willis G. Tucker.
79 A Smallpox Epidemic in an Orphanage. F. C. Curtis and Henry L. K. Shaw.
80 Clinical and Pathological Notes. A Case of Nutmeg Poisoning. E. E. Hinman.

The Ophthalmic Record (Chicago), November.

81 *On the Prevalence of Trachoma in the State of Illinois. Wm. H. Wilder.
82 Central Fistula of the Cornea Persisting Several Years. H. V. Würdemann.

Medical Herald (St. Joseph, Mo.), November.

83 An Exhibition of Specimens, Illustrating the Causes of Uterine Hemorrhage. Palmer Findley.
84 Syphilis. Charles G. Geiger.
85 Some Aspects of Syphilis. P. I. Leonard.

Cleveland Medical Gazette, November.

86 *Coal-Tar Antipyretics in Children. J. B. McGee.
87 *The Conservative Treatment of Appendicitis. S. P. Wise.
88 Centennial Address to the Eastern Ohio Medical Association at a Recent Meeting in Steubenville, Ohio. J. F. Purviance.

Fort Wayne Medical Journal-Magazine, November.

89 Is It Advisable to Await Reaction from Shock in Severe Injuries Before Operating. Miles F. Porter.

Occidental Medical Times (San Francisco), November.

90 *Perineal Prostatectomy—A New Operation. George Goodfellow.
91 Perineal Prostatectomy. Professors Macios and Gonzales.
92 Address, San Joaquin Valley Medical Association. H. W. Taggart.
93 Hematology and Its Relation to Diagnosis. Jackson L. Martin.
94 The Management of Miscarriage and Abortion. W. W. Cross.
95 Some Surgical Adjuncts. E. Harbert.
96 The Cardio-vascular System in Diabetes. G. E. Ebright.
97 The Palliative Treatment of Chronic Prostatic Hypertrophy. John C. Spencer.

Medical Mirror (St. Louis), October.

98 Rotary Lateral Curvature and Pott's Disease of the Spine: Differential Diagnosis and Rational Treatment. Daniel W. Marston.
99 Headaches, Their Causes and Treatment. L. H. Warner.

Nashville Journal of Medicine and Surgery, November.

100 The Development and Control of the Sexual Instinct. J. W. MacGuillan.

Western Medical Review (Lincoln, Neb.), November 15.

101 Nebraska's Medical Pioneers. II. Dr. Luther J. Abbott. H. Winett Orr.
102 Rotary Lateral Curvature and Pott's Disease of the Spine: Their Diagnosis and Treatment. Daniel W. Marston.
103 Obstetrical Practice. W. H. Wilson.
104 Three Protective Points in the Management of Labor. A. B. Somers.
105 Cirrhosis of the Liver. W. R. Lavender.
106 *Diagnosis and Treatment of Appendicitis from a Practical Standpoint. O. Grothan.

107 Two Cases Presenting Unusual Features of Bone Disease. F. A. Long.
108 So-called Follicular Pharyngitis. H. L. Burrell.
109 Meningitis. I. R. Swigart.

Journal of Medicine and Science (Portland, Me.), November.

110 Facts Pertaining to the Pulmonary Invalid in Colorado. Herbert A. Black.
111 The Prevention of Disease. F. J. Robinson.
112 Sanatoria in Honor of President McKinley. S. A. Knopf.

Southern Illinois Journal of Medicine and Surgery (Metropolis), November.

113 The Code of Ethics of the American Medical Association. A. C. Ragsdale.
114 The Passing of Czolgosz. Benj. O. Jones.

Pacific Medical Journal (San Francisco), November.

115 Report of the Special Health Commissioners.

Medical Examiner and Practitioner (N. Y.), November.

116 *Tremors Considered from the Standpoint of Life Expectancy. J. K. A. Wertheim Solomonson.
117 Examination of Eyes in Relation to Life Expectance. I. De Lantsheere.
118 *On the Admissibility of People Who Have Lived in Tropical Countries. C. L. Van Der Burg.
119 *Diseases of the Ear, Considered from the Standpoint of Life Insurance. H. Burger.
120 Report of the Commission on Universal Medical Blank. E. Poels.
121 *The Limits of the Acceptibility of Risks. Dr. Floerschutz.
122 The Reflexes in Their Relation to Life Expectancy. J. Crocq.

Medical Bulletin (Philadelphia), November.

123 Eczema. John V. Shoemaker.
124 Pneumothorax. Professor Hayem.
125 Diabetes Mellitus. John V. Shoemaker.

Alabama Medical Journal (Birmingham), November.

126 *A Plea for Gonorrheics. James E. Dedman.
127 Address, Tri-State Medical Association of Alabama, Georgia and Tennessee. Ira Landrith.
128 *Legislation and Its Limitations in the Prevention of Crime and Disease. John Beel Keeble.
129 *Heredity and Acquired Characteristics as Social Questions. R. R. Kime.
130 Ozone in Tuberculosis. J. D. Gibson.
131 Maternal Impressions. R. C. Bankston.
132 Clinical Observations on Hedonal. S. Heichelheim.

Georgia Journal of Medicine (Savannah), November.

133 For a Crusade Against Deafness. M. M. Stapler.
134 *The Clinical Examination of the Blood in Diagnosis. L. B. Cook.
135 A Clinical Report of Thirty Cases of Acute Lobar Pneumonia with Twenty-nine Recoveries. E. D. Newell.
136 The Successful Treatment of Anemia, with Effect Shown by Increase of Red Corpuscles and Hemoglobin. H. P. Loomis.
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AMERICAN.

1. **Diagnosis of Gallstone.**—Stockton reports a number of cases showing the difficulties in diagnosis and calls attention to the fact that cholecystitis is often mistaken for gastralgia. We must remember the curious signs of transient pyloric obstruction that follow adhesions of the liver and gall-bladder, and the lower end of the stomach, and that jaundice is far from a necessary accompaniment of cholelithiasis. It may offer important evidence as to the location of the stone, but when present, is often the result of angiocholitis and, when intermittent, probably depends on the presence of a stone in the terminus of the cystic duct, or of a stone free in the choledochus. When a steadily-increasing and persistent jaundice is met, it is safe to attribute the cause to outside pressure, exercised on the common duct by growth in the head of the pancreas and elsewhere, and not by stone in the biliary ducts. Osler's rules for differentiating between jaundice from gallstones and that produced by a growing tumor are sound, but we must remember that stone may be thus situated without the presence of the phenomena. If asked to name the chief symptoms of gallstone disease Stockton would say that these are: 1. Paroxysmal pain; 2, tenderness below the junction of the ninth rib and cartilage; 3, vomiting; 4, ague-like fever; 5, jaundice; 6, the formation of tumor; 7, collapse; 8, the passage of calculi in the stools.

2. **Hernia.**—The following points are laid down by Ochsner as essential for permanency of cure: 1. The wound must heal primarily so that there be no cicatricial tissue as a point of weakness. 2. The stitches must not be drawn tightly so as to produce pressure necrosis. During the healing of every wound there is a certain amount of edema for the first few days and if the stitches are drawn very tightly, pressure necrosis will be produced and cicatricial tissue, which is always weakening, will follow. It is best to just have the stitches drawn tightly enough to bring the surfaces barely in apposition. 3. The edges of the surface to be united must be free from fat and other unstable tissue. 4. The tissues should be manipulated with the greatest care during the operation, so as not to injure them. 5. The wound should be supported by broad rubber adhesive plaster strips which aid materially in securing a desirable condition of rest. 6. The patient should be kept in bed for two or three weeks so as to give the wound an abundance of time to become firm. 7. After the operation, abnormal intra-abdominal pressure should be eliminated. We should protect against constipation and obstruction to urinary passage, and meet the condition of obesity by proper systematic dieting and exercise. Considering the four chief forms of hernia separately, he says: I. In inguinal hernia it is specially important to secure subsequent union throughout between Poupart's ligament on the one side and the tissues of the internal oblique and transversalis muscles on the other. In the upper portion of these tissues the defect occurs in cases of recurrences. 1. In order to secure this condition, the portion of the sac contained in the inguinal canal must be removed well up into the peritoneal cavity, so that no portion of it can be interposed between the layers. In ordinary cases the entire sac should be removed; in congenital hernia the lower portion of the sac may be left to make a tunica vaginalis. In very large hernias with thick adherent sacs, it is well simply to resect the portion in the inguinal canal, making sure that none will be interposed between the layers. 2. For the same reason it is important to dissect away all portions of fat, loose connective tissue and muscle that might become interposed, special care being taken to expose the ledge formed by Poupart's ligament. It is well to resect any portion that reaches beyond the internal abdominal ring. II. In femoral hernia the opening through which the sac protrudes is a perfect ring, consequently, it is not necessary to do anything beyond dissecting out the entire sac well up into the peritoneal cavity, permitting the stump to retract so as to leave the ring perfectly free. It is better not to meddle with the ring as all the methods devised for closing have a percentage of recurrences. III. Ventral hernia following laparotomy. Here permanency of results depends on the care with which all the anatomic layers are dissected out and the corresponding ones united. He has found it most satisfactory to insert silkworm-gut sutures down to, but not through, the peritoneum, from three-fourths to one inch apart and to leave these untied until the layers have been united separately with chromicized catgut sutures and then to tie the silkworm-gut sutures over all, being especially careful not to tie them too tightly. IV. Umbilical hernia. Mayo's method is recommended, which consists in overlapping of the edges of the hernial ring, preferably from above downward, from one and one-half to two inches, after removing the hernial sac and disposing of its contents according to the conditions found. It is necessary to dissect back the fat so that the strong connective tissue of the two layers may become strongly adherent. Usually the upper edge of the ring is slipped beneath the lower one at a distance of one and one-half to two inches and sutured in place with from three to five chromicized catgut stitches, then the lower edge of the ring is drawn upward and sutured in place. It is remarkable how firm a closure this method will accomplish. Ochsner has used it so far in 11 cases with success.

3. **The Neurasthenic Spine.**—Lovett's paper reviews the painful affections of the spine in which the subjective symp-

toms are out of proportion to the objective signs, and where organic disease can not be found. While the range of severity is great, the type is pretty uniform. He groups them into four classes: 1. Irritation of the spine due to faulty attitude. 2. Those due to severe traumatism. 3. Those due to slight traumatism. 4. Spinal invalidism, understanding by this the neurasthenic conditions which appear to be more an impression of a general disturbance of nervous function than a local affection. The treatment of the groups is given as follows: 1. By correcting the faulty position, treating the muscles, stimulating local circulation, etc. 2. In cases due to severe injury, recumbency and support are required in addition to orthopedic methods. Fixation of the spine is the first requirement. 3. In cases due to slight injury, while supporting apparatus may be of value, massage, douches and hot air are most likely to be of use, with exercise later in the case. 4. The local measures for spinal invalidism are much the same as those submitted above; but the principal thing is to build up the patient and the case comes properly under the care of the neurologist. The essential of treatment seems to consist in the progressively increasing use of the spine under proper conditions without too much regard to the subjective symptoms.

4. **Rheumatism and Rheumatoid Simulants.**—Walsh discusses the different types of rheumatism, or what is called rheumatism, such as gonorrheal and septic arthritis and acute rheumatoid arthritis which must be considered as of microbic origin, toxemic arthropathies, and arthritic neuroses. Here he calls attention to the effect of flat-foot in producing symptoms of rheumatism in the calf of the leg and in the toes, also joint injuries which are apt to be aggravated more or less at times with changes of the weather. These cases are not rheumatism, but are due to the interference with the lymph paths and premature senility of the parts. Occupation neuroses such as brachialgia are noticed, in those engaged in telegraphy, typewriting, etc., the effect on the leg by the use of treadles, the motorman's arm, baseball-players' "glass arm," etc.

7. **Sacro-Iliac Tuberculosis.**—Thienhaus describes the condition of tuberculosis of the sacro-iliac joint, showing the way in which abscesses may point and the complications to which they may lead, and the difficulties in diagnosis, etc., that may occur. The treatment he thinks advisable is rest to the part if it can be applied in the early stages. Schedes' or Delbet's radical methods are also considered, with their advantages and disadvantages.

10. **Bottini Operation.**—Horwitz concludes his article in this number, giving a lengthy table of the experiences of 50 operators covering several hundred operations. From the results obtained from the list of cases tabulated he draws the following conclusions: "1. There is less fear on the part of the patient to submit to the operation than there is to any other surgical procedure so far suggested for the relief of prostatic hypertrophy. 2. The principal advantages to be derived from the method of treatment are: A short time only is required to perform the operation, which is attended with little shock and usually slight loss of blood, convalescence is rapid, and the mortality is lower than that by any other radical measure. 3. Cures result in the large majority of cases, especially if the operation is undertaken early. Marked improvement may be looked for in a vast number of cases, where otherwise individuals would be condemned to suffer, as the danger attending any of the other radical methods of treatment would be too great to warrant their employment. 4. Failures occur in but a comparatively small percentage of cases, want of success being due to the pathological changes and complications which have taken place. Especially is this true in those instances where an incurable cystitis exists. 5. The operation is contraindicated when a valve-like formation exists, or where there is a greatly increased overgrowth of the three lobes, associated with tumor formation, giving rise to a pouch, above and below the neck of the bladder. 6. It may be employed with benefit, and safety, as a palliative measure in cases of prostatic hypertrophy of long standing, associated with cystitis, when the general health will be improved and constipation, which is usually associated with this condition, relieved, mitigating the prostatic spasm of the urethra, and rendering the insertion of the catheter easy and painless. 7. Pyelitis, when present, adds greatly to the danger of the operation, but is not always a contraindication to its employment. 8. The character of the growth has but little bearing on the result of the operation. 9. The operation may be employed as a safe and satisfactory means of causing a suprapubic fistula to close, which so frequently follows a suprapubic cystotomy when the prostate gland is hypertrophied. 10. In suitable cases it is not only the best radical measure thus far devised for the relief of prostatic hypertrophy, but is attended by the smallest mortality. 11. The operation is especially indicated in the beginning of obstructive symptoms due to hypertrophy of the prostate gland and may be regarded as a prophylactic method of treatment. 12. The operation is capable of producing a symptomatic cure in a great number of cases of various conditions and configurations of the prostate gland due to hypertrophy, as is shown by the disappearance of prostatic spasm, the restoration of the function of the bladder to its normal condition, and the improvement of general health. 13. When operating early, before the prostate has become much enlarged, the safest method to pursue is to perform a preliminary perineal cystotomy, introducing the 'perineal galvano-cautery incisor' of Chetwood, so as to make the incision in the prostate. 14. In some instances a prolonged preparatory treatment is necessary before the operation can be safely undertaken. 15. In cases of prostatic obstruction, which have existed for a lengthened period, where there is chronic cystitis, the physical condition of the patient being below par, both local and constitutional treatment must be persisted in for months after the operation before the great benefit derived from the procedure can be insured, which treatment would be ineffectual unless the obstruction had first been removed."

11. **Arterial Degeneration.**—The popular notion of the chief danger of arterial degeneration is that of the rupture of the blood-vessel. This is incorrect, according to Bishop, as such accidents rarely do damage excepting in the brain. The danger of establishment of secondary heart disease and kidneys, or the interference with brain circulation, producing thrombosis, is far more to be dreaded. It is the disease that belongs to the most useful, active members of the community. Most such cases, if early recognized, are found in successful young men who work under mental tension and combine their work with a certain amount of dissipation. The management must consist more in hygienic measures than in drugs. Syphilis is more often the cause than is likely to be believed, and here, on account of the general good effect on high arterial tension, the iodids will be found useful. Alcohol should be limited or suppressed. Digitalis is important and iron as in anemia, but in the early stages either of these may not be so useful. If any chronic intoxication exists the cause must be removed. An especial type is mentioned of neurasthenia in persons who have been living a strenuous life and carrying undue responsibility. The bromids here are of the greatest value. The influence of arterial degeneration on the organs of special sense is mentioned. The rupture of a small blood-vessel into the eye in a person past middle life who is suffering from the strain of overwork is a sign that should not be neglected. The importance of attention to early diagnosis in these cases is shown by the fact that change of mode of life, and proper treatment will in many cases bring about an arrest of the conditions.

16. **Rheumatoid Arthritis.**—The confusion of this condition with osteo-arthritis is dwelt upon by Painter, who points out the differences and illustrates them by skiagraphs. He discusses the various forms, and especially Bannatyne's theory as to its bacterial origin, but thinks that this is not proven, for the following reasons: "1. Failure to satisfactorily demonstrate the organism itself, and the equally significant fact that the lesions found in the joint tissues are not such as are produced by any bacterial cause. 2. That the 'chronic' stage in the disease does not present lesions, either gross or histological, which are at all derivative from the 'acute' stage, and that therefore we

must exclude from rheumatoid classifications any disease with hypertrophic bone lesions. 3. It is suggested, though not proven, that the changes in rheumatoid may be due to faulty metabolism, the absorption from the digestive tract of toxins, or some chemical product of intestinal digestion, which ought not to be thus absorbed, if all tissues were properly performing their functions."

18. **Courvoisier's Law.**—Courvoisier's law is that when the common duct is obstructed by stone, dilatation of the gall-bladder is rare, but when obstructed by other causes, this condition is common. This was announced in 1890 and confirmed by Mayo Robson two years later. It appears, according to Cabot, to be pretty fairly established by statistics, but has, as yet, not been generally noticed in American medical literature and he calls attention to this fact. The explanation of the non-dilatation of the gall-bladder with stone in the common duct is considered by Courvoisier to be due to thickening of the bladder from chronic inflammation, which tends to the formation of stone, involving the common duct. It is, in the great majority of cases, contracted or atrophied and incapable of distension. This is possible, on the other hand, when the common duct is blocked by cancer of the pancreas or other outside causes; the walls of the bladder are then thin and easily distensible, so that the backing up of bile behind the obstruction readily distends them. The facts are explainable also by Fenger's theory of the ball-valve action of stone in the common duct, which releases the bile and thus prevents distension. The value of the law is in the diagnosis of cases of chronic jaundice with or without enlargement, and if Courvoisier's law will enable us in these cases to distinguish curable from incurable, operable from non-operable, lithogenous from non-lithogenous cases, its importance is obvious. Cabot thinks that it can be relied upon to an extent rarely possible in a matter so uncertain as physical diagnosis.

20. **Craig Colony.**—Jelliffe gives his impressions from a three months' visit at Craig Colony, showing how the isolation of epileptics in settlements by themselves has improved them. The elimination of all excitement and notice as to their attacks has an effect in the diminution of their frequency. Good food, open air, labor and sociability are also important factors. The patients there received their first chance to learn to work, and though they can not do full workmen's tasks they learn to be of some use in the world. The tact and judgment of the attendants go a long way. Quiet and steady work and pleasant surroundings seem to have a direct effect on the frequency of the fits. The advantages to medical science of the institution are noticed and he thinks that it is the greatest opportunity any country has ever had for studying the disease in its hereditary, causative and therapeutic aspects. It makes life bearable for most of its inmates, and some it strengthens and cures. He hardly knows which to admire most—the breadth of mind that evolved Craig Colony, or the conscientious, wise and energetic administration of its affairs.

23. **Quack Advertisements.**—Stuver reviews the various evils of quack advertisements as they appear to him, and offers his summary in the following: 1. The great life-saving discoveries have been made by quiet, unobtrusive men. 2. Quacks and charlatans have never made any great discoveries in sanitary science, but, on the other hand, have always opposed scientific progress and investigation. 3. Quackery flourishes best in an atmosphere of ignorance, credulity, and pseudo-science, and is promulgated by boastful, arrogant pretensions, and public advertising. 4. Antivaccinationists, antivivisectionists, christian scientists, *et id omne genus*, by opposing preventive sanitary measures and scientific investigations, facilitate the spread of contagious and infectious diseases, oppose the stamping out of diseases already established and impede investigations as to the causation, prophylaxis and cure of disease. 5. The newspapers, which derive a large part of their revenue from advertising, nearly always espouse the cause of the so-called commercial interests, regardless of the fact whether they are supported by truth and justice, or are opposed to the best interests of the public. This is well illustrated by the recent occurrence of bubonic plague in San Francisco. 6. The boastful pretensions and misrepresentations of quack advertisements (patent medicines) lower the public regard for truth and fair dealing and encourage falsehood and duplicity. 7. The bold and shameless introduction of advertisements, calling attention to and suggesting vile, immoral and even criminal acts, debases and demoralizes the young, and leads to disease, crime and degeneration."

24. **Vaginal Cancer.**—According to Williams, from an analysis of the statistics, this form, though the most common of all primary vaginal neoplasms, furnishes less than 1 per cent. of all cancers. It is difficult to explain its origin by any theory of irritation, and he reviews the development and anatomy of the organs and mentions especially certain small bodies which were discovered by Davidsohn and are considered as aberrant offsets of cervical glands. He suggests that foreign elements of this kind furnish the germs, whence cylinder-celled glandular cancers of the vagina arise, and Wolffian and Müllerian "nests," which are of common occurrence, may also play a part. There are two varieties of this cancer mentioned: 1. Where the new formation does not progress much beyond the initial stage and the ingrowing cells preserve their normal form and their mutual relations are but little altered, the columns fail to penetrate deeply and the malady progresses slowly, and dissemination is exceptional. This is the tubular variety. With the more common type, the lobular form, the changes are more rapid, as other parts are secondarily affected. Several instances of vaginal cancer developing from hyperplastic lesions, leucoplasia, ichthyosis, etc., have been reported. In a few cases kraurosis has been known to have a similar termination. The symptoms and characteristics are pointed out and it is remarked that, as in cancer of the uterus, the dissemination of the disease in the internal organs and distant parts is not very common. The disease appears usually in the adult in post-meridian life, but in many cases it occurs at an earlier age than is common with cancer in general. In 76 cases Williams found it began between 20 and 30 years in 12, and it has been reported at a very early age, but such cases are to be looked upon with suspicion. The average age of onset is only 40 years, while that of the onset of mammary and uterine cancer is found to be 44 and 48 years respectively. Nulliparæ are as prone to the disease as multiparæ, and the mean fertility does not seem to have been affected, the average of births being a little above the usual. In diagnosis it should be remembered that secondary cancer of this part is much more common than primary and neighboring organs from which the disease has originated must be looked for. The microscope must distinguish between the sarcomatoid growths ,and septically infected and sloughing myomatous tumors are to be generally determined by careful digital examination. Other disorders which may cause trouble in diagnosis are syphilis, tuberculosis, and chronic inflammatory affections, and he has seen one case of vaginitis verrucosa mistaken for cancer. The surgical treatment is an open question. In most cases of active or rapid and insidious progress this is impracticable with any prospect of advantage, and even the most favorable cases are apt to be disappointing as regards results. Pregnancy does not seem to be affected by the existence of vaginal cancer, though it affects, of course, the chances for the mother's and the child's life. The only surgical intervention likely to be required would be for the conservation of a viable fetus. Cesarean section is the operation usually indicated and its results are favorable as regards the child, though the maternal mortality is likely to be considerable.

26. **Typhoid Bacilli in the Blood.**—Hewlett reports twenty-four cases of examinations, and says that to attempt generalizations from these would not be justifiable, but nevertheless suggests that, in the great majority of cases of typhoid fever, there is an infection of the blood by the bacilli during the early attack of the disease. This is not, however, properly a septicemia, for the number of bacilli present is ordinarily very small. During the third week of the disease, or when the temperature begins to fall, bacilli are no longer to be obtained

in blood cultures, but appear again at the onset of relapse and disappear with its disappearance.

27. **Obstruction of the Bladder.**—Bird's method consists in doing away with the catheter and using a bulb syringe in connection with a fountain syringe. The use of gentle, slowly increased, and regulated pressure will cause the liquid to enter the bladder and the rest is easy. The bulb and discharge tube of a bulb syringe are connected to the tube of a fountain syringe; a hard nozzle guarded by a soft-rubber tip supplants the catheter. He thinks the advantages of the method are that there is greater safety from infection, less pain and nervous reaction and that better results are obtained by the use of the bulb syringe in connection with the fountain syringe.

28. **Tuberculosis in Children.**—Knopf reviews the causation, prognosis and treatment of tuberculosis in children. He finds but little evidence of direct heredity and holds that the majority of cases are infected from without and not from within. The frequency of tuberculosis in childhood is noticed, the dangers of expectoration in the neighborhood of children and also the fondling and kissing by tuberculous parents. The ideal way to solve the question of transmission of parental tuberculosis would be separation, but this is impracticable. He dwells on the hygiene of children's nurseries and playgrounds, objects to their visiting menageries and speaks of the importance of school inspection, separation of tuberculous children from other children in schools, the restriction of reproduction by tuberculous parents, necessity of cleanliness, exercise, hydrotherapy, etc., and the prevention of child labor.

29. **Blood in Infancy.**—The three specific characteristic factors of blood in infancy are first noticed by Light: 1. The blood of infants tends constantly to embryonic characteristics when the clinical balance is disturbed. 2. Such disturbances produce blood changes out of proportion to the exciting cause, as measured by the adult standard. 3. Lymphocytosis is pronounced; the spleen tends to enlargement and splenomegaly has not the signification in childhood that it has in adult life. The presence of nucleated red corpuscles also has not the grave significance that it has in later life, but karyokinesis in the circulating red cells is rare and of serious import. The leucocytic count is higher in the early years. The exact age at which lymphemia ceases is not known. Polymorphonuclear elements, according to Engel, average 60 per cent. in normal children of the tenth year. From 2 to 10 per cent. of eosinophilia is probably normal in early years and an increase in acid-staining cells has not the same signification in early life. The clinical determination of abnormal states in infancy must proceed, therefore, with the ill-balance of the normal type in mind. The development of children must be taken into consideration. The different types of blood changes found in diseases like gastro-intestinal disorders, typhoid, pneumonia, tuberculosis, scarlet fever, etc., are remarked on. Leukemia seems to have been rare according to the New York statistics, but a number of cases have been reported from other localities. The existence of von Jaksch's anemia seems to be questioned by the author.

32. **Cholecystectomy.**—The various deductions in regard to cholecystectomy for cholecystitis and cholelithiasis are summed up by Gibson as follows: "In properly selected cases it is an extremely simple and safe operation. It is a curative operation, doing away with subsequent attacks of cholecystitis, and, more remotely, of renewed stone formation. It eliminates the disagreeable possibilities of long-continued biliary and mucous fistulæ. It is indicated in certain technical conditions, such as atrophic or (for drainage) inaccessible bladder, obliteration of the cystic duct, or impacted stone in the cystic duct, and in hemorrhagic conditions of the gall-bladder. It is a prophylactic measure against the development of carcinoma on the site of long-standing irritation. It offers the prospect of a shorter and easier wound-healing and convalescence. It is not to be employed indiscriminately, but has its proper limitations and contra-indications."

36. **Neuralgia of the Rectum.**—The conditions of neuralgic pain in the rectum are numerous. Monroe holds that we can not have simple neuralgia there without some causal pathologic condition. Coccygodynia, which is of the same nature, is included in his consideration of the subject, and he is inclined to think that it is always due to some local cause and that it is not purely hysterical. The treatment of rectal neuralgia, of course, must depend on the local disease if it can be found, whether it be fissure, ulcer, fistula, enlarged prostate, uterine or ovarian disorder or floating kidney. Constipation must be attended to. He has seen two cases cured by dilating urethral strictures. He usually gives the patient once in ten days 10 gr. of calomel in grain doses every two hours and follows this with one or two teaspoonfuls of phosphate of soda dissolved in a full glass of hot water and then after this gives 30 gr. of sulphate of quinin in 5 gr. doses four or five hours apart, using an enema of a quart of warm water twice a day, to which a teaspoonful of Merrell's liquid hydrastis or Pond's extract has been added. The sacral and coccygeal regions are also painted with tincture of iodin once a day. He has obtained good results from sulphate of strychnin, 1/40 gr. three times a day, combined with five drops of Fowler's solution. These patients are frequently debilitated and need to be built up, and he has followed the practice of divulsing the sphincter in nearly all cases so that no overlooked fissure can escape. In conclusion, he cautions the physician to question and look for specific disease and to investigate closely until absolutely certain that the condition does not exist.

38. **Railway Surgery.**—Cottam reviews the statistics of railway injury, showing how the aggregate number of casualties has increased with increased business and mileage, and the consequent growth of railway surgery. He alludes particularly to the civil malpractice question, the misuse of legal remedies and suggests medical insurance against blackmailing suits, calling attention to what has already been done in Minnesota in this regard. Were reputable practitioners admitted to associations paying a fixed membership fee and assessments to meet the requirements, the blackmailer or false claimant would be less likely to try to meet a united profession than a single individual against whom he thinks he may succeed.

43. **Hemorrhoids.**—The method for suturing hemorrhoids claimed as original by Mann and which he considers avoids the possibility of hemorrhage, guards against stricture, and shortens the period of convalescence, is described by him as follows: Clamp the hemorrhoid in the usual way, and with scissors cut it off just above the clamp. Wipe the surface clean. Now, with a catgut suture, begin at the top and pass the needle through the base just beneath the clamp and tie it. This holds the top secure. The needle is then passed through at a distance of one suture hole lower down, then it is turned and passed back through the first suture hole, or near it, and pulled tight. It is now carried by the second suture hole to the distance of one more and thrust through. Then it is turned and passed back through the second suture hole, pulled tight, then carried by the third suture hole to the distance of another and returned at the third and so on. Each turn is pulled tight as it is taken. All the threads pass beneath the clamp, and every part of the stump is held tight by a loop of the suture. Hemorrhage now seems impossible. Stricture is avoided by leaving sufficient mucous membrane between the hemorrhoidal masses removed. Three masses are as many as it is usually necessary to remove, and it is practically never necessary to remove more than four. If one does not wish to use a continuous suture, but tie as he goes along, the interrupted suture may be inserted beneath the clamp. No space should be left between the sutures because of possible hemorrhage from vessels not controlled by the sutures. To insure closure of the raw surface for healing by first intention, a second suture is tied once beneath the clamp at the top, the clamp is removed and the suture is brought down as a continuous over-and-over suture. The healing is by first intention and only a few instruments are required; the ordinary pedicle clamp, and a short round moderately-curved needle will ordinarily suffice. The superficial suture should last in position

about 7 to 9 days; the deep suture may be more quickly absorbed. If the superficial suture absorbs too quickly, there may be a slight surface left to be covered over with epithelium later.

46. **Diphtheria.**—A peculiar epidemic of diphtheria in Montclair, N. J., has been traced to a dairy where one or two milkers had suffered from a slight inflammation of the throat not sufficient to be diagnosed as specific diphtheria. A bacteriologic examination, however, showed diphtheria bacilli in the exudate. Other cases ceased to appear after the dairy was closed. The men had become infected by taking milk bottles away from an infected house and had themselves infected the milk probably through their respiration. The cases all occurred on this one dairy route and some curious associations of the milk with the existence of the disease are noted. One patient confessed to drinking milk habitually and liked the top of the bottle early in the morning, while another person closely associated with her never uses milk. The milk drinker had the disease.

47. **Diphtheria.**—Newton reviews the same epidemic, calls attention to the importance of the human breath as a source of infection and thinks that this has not been given sufficient attention by the profession as the cause of this disease.

53-63. **Appendicitis.**—The opinions of various prominent physicians on this subject are collated by the editor. A number of questions were propounded. As regards mild or moderately severe attacks, Wyeth, Roswell Park, Stockton, DeForrest Willard, Edwin Martin, Turck and Maurice Richardson would rely on emptying the bowels and quiet unless symptoms become more severe. Park would err on the side of operation rather than otherwise. Morris, Ochsner and Murphy would operate early. In severe cases, in the early stages, nearly everyone would operate. Ochsner would in some instances act as in the former case if no safe surgeon was at hand. DeForest Willard would operate as soon as the diagnosis is reasonably certain. Turck would wait for perfectly clear diagnosis before operating. During the active stage of a moderate attack most would watch the condition to be ready for operation. Dr. Morris would operate anyhow. Ochsner would use exclusively rectal feeding, no nourishment or cathartics by the mouth. In very severe attacks during the active stage operation is the rule, though Ochsner would consider the same treatment as before. Of course, if the patient has collapsed, stimulants will always be required or possibly operation might be impracticable. When the case is subsiding after expectant treatment and there is a brawny, tender swelling over the cecum, Wyeth, Park, Ochsner, Murphy, Stockton, Willard, Martin and Turck would wait. Morris would operate, as also would Richardson if the patient is not in a favorable condition for waiting. The only case in which Park would advise against operation is where the patient is moribund and the case hopeless. Morris would do so if a competent surgical operator is not at hand. Ochsner would advise against operation where the infection has extended beyond the appendix and has not produced definite circumscribed abscesses. Murphy would operate in any case where the serious condition of the patient did not forbid it. Stockton and Martin and Richardson rather agree with Murphy and Park. Wyeth is conservative. He would let the patient alone if the acute symptoms subside in a mild attack. Most would operate during the interval between the first and second attacks. Some would prefer to wait until the third or fourth attack and would operate when convalescence seems to be complete.

71.—See abstract in THE JOURNAL of September 14, p. 713

75. **Stypticin.**—Boldt finds that this substance (cotarnin hydrochlorate), which is derived from narcotin, one of the alkaloids of opium, is specially useful in certain forms of uterine hemorrhage. His former experience was published in the *Medical News* of April 8, 1899, and since that time he has tried it on a number of additional patients under various conditions, such as profuse menstruation in virgins, bleeding after full-term delivery with pelvic inflammation and in atypical bleeding after confinement caused by retention of the decidua, also during the climateric period when no pathologic condition can be found. Where it is caused by inflammation of the uterine mucosa either alone or with chronic neoplasms this drug, like all others, fails, and this statement holds good when retroflexion or version accompanies the endometritis. It is also useless in endometritis fungosa, though it is of benefit in some cases of simple endometritis. In one case of irregular uterine hemorrhage of unknown cause he had a satisfactory result follow the use of the drug. He has also found it useful in bleeding caused by para- or peri-metritic exudates and better in this respect than other remedies. In typical bleeding associated with subinvolution it is of great value and in a few instances bleeding during pregnancy has been controlled without any uterine contraction having been caused. He has not found it especially valuable in controlling hemorrhage from fibromyomatous tumors or from malignant growths. If quick action of the drug is desired it is best to give it in 2 or 3 grain doses in sterile water injected with antiseptic precautions into the buttock and repeated after four or six hours. Two or three injections should suffice, after which the remedy can be given by the mouth in capsules or tablets. He has given injections as high as 5 gr. without any bad results.

77. **Thiocol and Dionin.**—Thiocol (guaiacol-sulphonate of potassium) has been used by Johnston in various bronchial disorders with great success, but he has found it of no special use in cough arising from pathologic conditions of the pharynx, nasopharynx or tonsils. He gives large doses, 45 grains, three times a day. In typhoid fever he finds it an ideal intestinal antiseptic tending also to diminish bronchial complications. It may be prescribed in cinnamon water or pancreatic essence 5 grains to each fluid dram. Dose, one teaspoonful three times a day, two or three hours after meals if it is intended to act on the intestinal mucous membrane. This will be about 7.5 grains to the dose and it is sufficient in these cases. Dionin (ethyl-morphin hydrochlorate) must be placed as an intermediate between morphin and codein in therapeutic power. Johnston finds it efficient as an analgesic in gynecologic cases in .25 grain dose, but in severe conditions involving pain, morphin is superior. Dionin does not constipate and has none of the co-existing by-effects of morphin and is preferable to morphin, codein or heroin for use in expectorant mixtures in his opinion. He mentions a case of severe delirium in pneumonia which was controlled completely by this drug. He dissolves 2 to 4 grains in 2 ounces of essence of pepsin, and gives it in teaspoonful doses.

81. **Trachoma.**—The dangers of trachoma are especially mentioned by Wilder, who gives a map showing its prevalence in the different parts of the state of Illinois, where its distribution appears to be very unequal, as it prevails mostly in the southern and central portions. There is a marked increase noticeable of late years in the reception of cases in the Illinois Eye and Ear Infirmary from different parts of the state. He thinks it is the duty of the medical profession to endeavor to educate the community on the subject and to prevent the spread of the disease through ignorance, which seems to be the main cause.

86. **Coal-Tar Antipyretics in Children.**—McGee thinks that for fever in children, small doses of aconite or phenacetin are of use. Phenacetin he thinks the safest coal-tar preparation, though he has also found kryofin efficient and safe. In whooping cough he prefers quinin; in influenza he finds small doses of phenacetin as efficient as in the adult.

87. **Appendicitis.**—Wise argues for conservatism in appendicitis and believes in the use of opium in these cases. He holds that the tolerance in each individual case should be estimated and the dosage regulated accordingly. When called early to see a patient, a saline cathartic should be advised and opium should be deferred until the bowels are evacuated.

90. **Perineal Prostatectomy.**—Goodfellow considers his technique in this operation original. He operates with the patient in an exaggerated Simon position, enters the mem-

branous urethra and bladder on a lithotomy staff, and by using pressure above the pubic bone, forces the viscus downward, and then enucleates the prostate. The after-treatment is simple, consisting of daily irrigations of the bladder with passage of good-sized sounds for ten days or two weeks where the condition of the bladder demands it. In uncomplicated cases a part of the urine will be passed in the natural way in forty-eight hours, and no further treatment is called for other than the introduction of sounds until all danger from contraction is over. If a single incision is found insufficient to remove the gland, the high incision can easily be made, and the prostate extracted by the combined method. He thinks in cases where there is acute suppurative cystitis, a perineal opening is necessary even in high cystotomies, and that suprapubic drainage alone is dangerous.

106. **Appendicitis.**—Grothan believes in a rather conservative practice. In catarrhal appendicitis—that is in the great majority of cases—he would not operate, but would rely upon opium and anatomic and physiologic rest of the parts. In suppurative appendicitis he would operate, but as a rule he waits for adhesions to shut off the peritoneal cavity. If temperature is high, pulse rapid, and vomiting persistent, it is better to err on the side of early operation. In acute perforating and fulminating appendicitis, operate as soon as the diagnosis is made, and see to it that the diagnosis is made early.

116. **Tremors.**—Solomonson's conclusions are as follows: "1. A direct question as to the presence of a tremor should be included in every examination blank. 2. The search for the existence of tremor should include at least: (*a*) The inspection of the outstretched fingers and hands. (*b*) The inspection of a few straight lines drawn by the applicant. (*c*) Some trials of the applicant's handwriting. (*d*) The inspection of the lips and of the tongue, as well during rest as when in motion, the extension of the tongue and the contraction of the lips. (*e*) The inspection of ocular movements. 3. In the description of a tremor, it should be mentioned whether it is rapid, moderate or slow, or at least whether it is vibratory or oscillatory. Then, whether present or absent during passive and active rest, in motion, or the tendency to motion, whether it stops or increases through one of these circumstances, and, finally, what parts of the limbs are affected." He describes in his article the various forms of tremor and gives tracings illustrative of the different types.

118. **Tropical Residence.**—The insurance companies should, according to Van Der Berg, as regards tropical residence, arrange applicants into three different categories: 1. Those who are about to move to warmer countries; 2, those who live in them; 3, those who have returned. The various diseases met with in the hot climates are noticed, the deductions having been drawn from experience with the Dutch colonies in Asia. He thinks the following conclusions may be deduced from his study: 1. The insurance of people returning from hot countries needs a special examination: (*a*) We must find out how the change of climate has been borne. (*b*) We must look for the symptoms of tropical diseases. 2. The insurance companies should entrust the examination of such people to physicians who have lived in the tropics, and preferably to those who are acquainted with the region they inhabited. In this matter especially, experience and practice are of the greatest usefulness. Often one may recognize at first sight whether the person to be examined has suffered from a disease of the liver, from chronic dysentery, from psilosis, beri-beri, or malaria. These first impressions must be controlled by a careful examination. Those who have seen few of these diseases do not possess this intuition, which seems to me to be of great importance. Nowadays physicians can everywhere be found who are competent to examine people entering into one of the three classes indicated at the beginning of the report.

119. **Ear Disease in Life Insurance.**—Burger, after a discussion of the various conditions and complications of ear disease, offers the following conclusions: "I. It is to the interest of life insurance companies to pay greater attention than has been done heretofore to the condition of the ears of applicants. II. In acute inflammations of the external and middle ears we must await the termination of the disease before granting insurance. III. In the same way, in some very severe cases of chronic external otitis the insurance should be postponed. IV. It is possible to admit without trouble the various forms of chronic catarrhal otitis. V. Chronic suppurative otitis media must always be declined if we observe the certainty or the probability of: 1. An inflammation of the attic or of the mastoid antrum. 2. A tubercular or cholesteatomatous affection. 3. A bony lesion. 4. A paralysis of the facial nerve, or 5, when otitis is accompanied with vertigo or cephalalgia or by considerable stenosis of the external duct. VI. Other cases of suppurative otitis media need not necessarily be declined. VII. As to the possibility of their being accepted with an increased premium, each case must be examined by a competent specialist and judged separately. VIII. When the suppuration has entirely ceased, there is no objection to acceptance. A permanent perforation of the tympanum alone constitutes an impairment of the risk. IX. Chronic suppurations healed by the radical cure may be accepted under an increased premium, notwithstanding the large bony losses, or the permanent retroauricular opening following the operation. X. Bilateral deafness is important, and severe cases of aural vertigo should require an increased premium. XI. It is highly desirable that the university teaching of otology, until now much neglected, should be improved and extended and that otological diagnosis should be required for the final examinations."

121. **Life Insurance Risks.**—Florschutz's article is chiefly in relation to tuberculosis and life insurance risks. He believes in predisposition and thinks that signs of it can sometimes be discovered. Underweight for the stature and age indicate a sickly tendency and insufficient nutrition, hence deficient resistance to disease.

126. **Gonorrhea.**—Dedman holds that gonorrhea is not usually treated on rational or scientific principles, but that its serious nature is overlooked, and that it is responsible for a considerable percentage of mortality reported. The patients are dismissed too early. He says the physician should impress the patient with the gravity of his disease and its pathologic possibilities, avoiding routine treatment and remembering that every case has its own pathologic peculiarities and must be treated individually. Let us employ every diagnostic means at our command to be thoroughly convinced that the patient is well before we dismiss him, remembering that it is these apparently cured cases that do more subsequent damage than all others combined, not only to the patient himself, but to his wife.

128. This article has appeared elsewhere; see THE JOURNAL of November 30, 142, p. 1489.

129.—Ibid., 143, p. 1494.

134.—See abstract in THE JOURNAL, xxxvi, p. 1726.

FOREIGN.

British Medical Journal, November 23.

Action of Iodids on the Heart and Circulation. RALPH STOCKMAN and FRANCIS J. CHARTERIS.—The authors have investigated the action of the iodids on the heart and blood vessels, which is of interest on account of their extensive use in aneurysm, arteriosclerosis and cardiovascular degenerative changes. Most authors attribute to the iodids a depressing action on the circulation, while a few deny this. Stockman and Charteris have made systematic observations on blood tension and pulse rate of numerous patients taking potassium or sodium iodids. The observations were made with the von Basch's sphygmomanometer and Gartner's tonometer, which detect and record slight changes in the arterial tension. The doses were usually 15 to 30 or 40 grains, a few patients, however, taking much more, up to 180, and one man suffering from spinal sclerosis took 300 grains per day. Some of the patients had healthy circulatory systems and were taking iodids for chronic rheumatism, sciatica, facial paralysis, etc. Others suffered from renal or cardiac disease, aneurysm, arterio-

sclerosis, bronchitis, etc. One patient suffered from severe iodinism, the others had it but slightly. Observations were taken regularly during the iodid administration, but in no case did any fall in the blood pressure occur or any change in the rate or rhythm of the heart. Even the man who suffered from severe iodinism maintained his arterial tension unimpaired, though he said he felt very depressed and ill. The depression seemed partly due to coryza and partly to the action on the nervous system. "The result of the observations is to show that potassium or sodium iodids, given to men by the mouth in therapeutical doses, do not modify the physical conditions of the circulation, and that therefore they neither directly weaken the heart nor dilate the arterioles. The therapeutic effects must be due to some other mode of action, and this is probably true also of some of the rarely occurring poisonous effects. It is sometimes observed, for instance, that iodids quicken and weaken the pulse, and this has been specially frequent in goiter; sometimes also their administration is followed by emaciation. There is good reason for believing that in neither case is this a direct effect, but is due to increased formation or alteration of the iodin-containing thyroid secretion, which has a powerful action on the circulation and on metabolism." The authors also have repeated and checked a considerable amount of experimental work on the action of iodid upon the circulation in animals. They notice a decided difference in the effect of iodid of potassium as administered by the veins, where its action as a cardiac depressant is very marked, while sodium iodid given in the same way produced very little, if any effect. A small, carefully guarded dose of the potassium salt caused a transient rise of blood pressure, with slowing of the pulse and increased size of the waves. When given by the stomach the depressing effect on the blood pressure is only observed after enormous doses, and is never very evident in man. It is an effect of potassium common to all potassium salts and seems to be due to the large amount of potassium salt striking the heart at once and in a certain concentration, for if the solution is very dilute and injected slowly so that it mixes well with the blood this effect does not appear. Although the blood pressure may sink to nothing, the heart muscles and nerve ganglia may not be killed, but may recover rapidly as the blood washes the poisonous salts out of the heart. Death may occur, however, from asphyxial convulsions brought on by overwhelming action. They have never seen the fall of blood pressure from dilatation of the arterioles mentioned by Sée and Lapicque. A number of experiments were also made on the hearts of frogs isolated, but they did not throw much light on the action of iodids on the heart and circulation of man and mammals. Iodids and iodin exert a very depressant effect on the muscles of the frog, no trace of which could be observed in mammals. They conclude, therefore, that sodium or potassium iodid, when given to man by the stomach in the ordinary dose, has no depressing effect on the action of the heart, blood pressure or arteries.

The Lancet, November 23.

The Etiology of Beri-Beri. PATRICK MANSON.—The importance of beri-beri is first considered, and Manson shows that it is not only endemic in the tropics, but has appeared in certain institutions on the British Isles, for instance the Richmond Asylum in Dublin. He also mentions a confusion in names, that is, other disorders have received this designation and it is possible that the term beri-beri covers more than one form of peripheral neuritis. There is a large and almost unworked field for the bacteriologist in the tropics. We should first, therefore, have a clear conception of the term we are discussing, and what he considers to be understood by the term beri-beri is a form of multiple peripheral neuritis occurring endemically and epidemically, characterized, as compared with other forms, by proneness to edema and to implication of the neuro-muscular system of the central organ of circulation; by complete absence of trophic skin lesions, of paresis of the muscles of the head and neck, of marked implication of the senses of sight, hearing, taste and smell and of the mental faculties. In common with alcoholism and arsenical neuritis there are locomotor disturbances, paresthesias, and hyperesthesias, with atrophy, and generally after the beginning, absence of patellar tendon reflex and of the superficial reflexes, the sphincters being intact. The patient complains principally of sweating, palpitations and breathlessness, weakness and numbness of the limbs, and swelling of the legs. Fever and diarrhea are far from being prominent features. The intensity and duration may be varied; either trifling and of only a week or two's duration, or may prove rapidly fatal, or last in varying degrees of intensity for months. Paresis may be the leading feature or muscular atrophy or anasarca, or there may be rapidly fatal paralysis of the right heart and diaphragm and respiratory muscles. It occurs generally in limited epidemics, in particular houses, etc., or it may spread over large areas only attacking limited foci therein. It occurs at sea on board ship, where it is apt to be rapidly fatal. The postmortem results are those ordinarily found in multiple peripheral neuritic degeneration of the peripheral nerves or ascending degeneration of the neuron and involving the corresponding intracranial cells. No immunity is conferred by an attack and the mortality ranges from 5 to 50 per cent. In some epidemics only a few are affected, in others almost everyone may be a victim. There are two theories of its causation: 1. The dietetic, which has been advocated by many writers, who generally attribute the disease to prolonged and uniform rice diet. The facts that support this are largely from Japanese experience, but epidemics elsewhere show exceptions. It has occurred in other countries with elaborate diet where there is no lack of nitrogenous food. In the prisoners of the Dutch colony of Java there seems to be some evidence that it follows the use of decorticated rather than non-decorticated rice. Another theory which Manson thinks more plausible is the germ theory, which is quite compatible with Japanese experience, and that the disorder has its origin in the toxin elaborated by a germ in the blood or tissues. In his opinion, the best supported theory by facts is that the diseases is purely an intoxication produced by toxins elaborated by germs whose nidus is located outside the human body, and he parallels it with alcoholism. The cause can be transplanted from place to place and therefore can not be of climatic or meteorological nature, and when so transplanted can multiply. This has been shown by numerous facts, by the transportation of Japanese to different localities where they have carried the disease with them, and it is not unknown on ships in the London docks. We can not, however, say what the toxin is, but its persistency in certain buildings and ships is certainly remarkable. The analogy with alcoholism is used by him largely in his reasoning. In conclusion, he enumerates several points that investigators in the etiology of beri-beri must be careful to attend to: "1. The diagnosis: they must avoid mistaking other forms of peripheral neuritis for that of beri-beri. 2. They must bear in mind the possibility that the disease may not have been contracted at the place in which it is declared. 3. That the toxin which produces an outbreak of beri-beri may have been imported as such and not manufactured, so to speak, locally. 4. They must carefully differentiate between predisposing or favoring conditions, such as overcrowding, heat and moisture, bad food, etc., and the actual direct cause. 5. Finally, they must recognize that the actual cause must correspond in its geographical distribution with the geographical distribution of the disease."

Twenty-five Years' Experience of Urinary Surgery in England. G. BUCKSTON BROWNE.—In his second lecture Browne takes a more favorable view of the prospects of the prostatic patient than is commonly held. Why prostatic enlargement occurs, he says, can not be stated, but he would advise plain living, foot exercise, and very moderate sexual indulgence after 50 years of age as a prophylactic. He describes at length his method of conducting aseptic catheterization, and he maintains that there are no cases of prostatic disease where it is impossible to pass a catheter into the bladder. The India rubber catheter is the safest of any and will often work when all others fail. The worst cases are those where the distension has become chronic, and no surgeon should treat such as out-patients. Catheter life does not disqualify from

active life. He knows many instances of men active in the professions and even sailors and sportsmen who were in that condition. The complication of stone in the bladder is a serious one, and is mentioned at length. Browne puts little faith in castration or vasectomy. The only thing to do for a prostatic patient whose suffering can not be mitigated by the treatment is to open the bladder suprapubically in order to explore digitally for stone or tumor and at any rate to obtain rest for the organ. He emphasizes the importance of opening the bladder in such cases upon the point of a staff. When the prostate is large so that the organ often comes up well above the pubes, unless the staff is employed, it is possible to incise the prostate and not the distended bladder, and thus cause serious trouble. It is a curious fact, he says, how many cases turn out to be really cases of calculi hiuden away in one of the many pouches to which such cases are subject. If a stone is found and the intravesical prostate is not very large it had better be left alone, but if it is large and there is no stone he thinks it would be good policy to attack the growth. He credits the operation entirely to McGill of Leeds, maintaining that Belfield's previous operation was practically an accident. The special points of technique are quoted from McGill. As for total extirpation by enucleation he considers the phraseology misleading. The prostate can no more be enucleated without the use of the knife than can a piece of the intestine. It is absolutely one with the urethra and bladder. This treatment has been used in error and by surgeons who have been fortunate in only meeting with the simpler or adenomatous form of prostatic enlargement where large masses are easily shelled out. He also maintains that he has shown that the bladder may recover its power fully even after long depending upon the catheter. Therefore, the operation is not contraindicated. He sums up his views, which were first expressed in 1893, as follows: "1. I believe that suprapubic prostatectomy should never be undertaken at the outset of catheter life unless regular auto-catheterism is difficult or well-nigh impossible. In cases of real difficulty I have seen several patients where vasectomy has been performed, and there has been no lessening whatever of the catheter difficulty. It must be understood that I believe that cases where regular catheterism is impracticable are very rare, and it is for these only that I would recommend suprapubic prostatectomy. 2. Prostatectomy should never be undertaken as long as the ordinary catheter life is a tolerable one. 3. If catheter life becomes intolerable, suprapubic cystotomy should be resorted to. By means of this proceeding the bladder can be thoroughly explored and any stone removed, which in these cases may easily have escaped detection by the more useful methods of examination. The prostatic growth can be fully examined and removed if the operator think it right to do so. If he deem removal inadvisable he can leave the patient with a suprapubic tube for permanent after-wear with the certainty that he will have materially improved the condition of the patient. Finally, should the operator decide to remove the prostatic obstruction there is a very good prospect, but not a certainty, of the power of natural micturition being restored to the patient. I would therefore strongly recommend all prostatic patients and their advisers to be content with the catheter life as long as it is tolerable, and in the vast majority of cases, with reasonable care, it will remain tolerable into extreme old age—until the end comes probably through other channels. I believe that, as Mr. Jonathan Hutchinson once said to me, 'good surgery may often be combined with bad practice.' The work of the world is not always done by those who are completely well. It is not wise for the elderly to run grave risks only on the chance of obtaining complete comfort. There is much truth in what Thomas Hardy says of one of his most fascinating heroines: 'In considering what she was not he overlooked what she was and forgot that the defective can be more than the entire.'"

A Note on Neisser's Test for Diphtheria Bacilli. L. CORBETT.—This author holds Neisser's method extremely valuable in distinguishing diphtheria from pseudo-diphtheria, but it is not infallible. It fails in a small proportion of cases to show the polar bodies of true diphtheria bacilli and shows minute or doubtful polar bodies in a few cases of Hofmann's bacillus. This fact, however, detracts very little from the value of the stain as a differential test because the exceptions to the general rule are so few. A good positive reaction is evidence that the bacilli are diphtheria bacilli; a definite negative reaction is valuable evidence but not alone conclusive, while a poor or doubtful reaction is not of much value either way. He describes his acetic acid modification of Neisser's stain, consisting in an application of a drop of 5 per cent. acetic acid to one edge of the cover slip and drawing the fluid under the glass by means of a small piece of filter paper placed on the other side. If the bacilli are watched while the acid is entering under the cover slip one sees first a current of fluid sweeping up loose bacilli and hurrying them away. A blue cloud next appears and blurs out everything for a second, then passes on, leaving the field bright and clear and the diphtheria bacilli showing the polar bodies as when stained as Neisser recommended, only the bodies are not brown, but blue. The Hofmann bacillus does not as easily decolorize as the diphtheria, and at the middle of each half a good deal of blue usually remains. With the diphtheria bacilli the stain is instantaneous and the picture revealed is not inferior to that of the Neisser specimen stain in the usual way. The method is so quick that it takes no appreciable time and can therefore be applied to every preparation having a micro-organism with the remotest resemblance to diphtheria.

Bulletin de l'Academie de Medecine, November 19.

Five Cases of Rupture of the Spleen in Malarial Subjects. BOINET.—The spontaneous rupture of the spleen during an attack of intermittent fever or pernicious malaria is possible. It is favored by the softening, the enormous enlargement of the organ, the congestion and the rapid increase in the body of the spleen which is liable to distend and burst the capsule. Sometimes the capsule is thin and normal in aspect, or it may be thickened and have lost its elasticity. Adhesions between the spleen, stomach and diaphragm drag on the organ or interfere with its movements, and thus favor rupture from slight traumatism. The alterations, hypertrophy and friability of the large spleens noted in chronic paludism were the predisposing causes in four of the cases related. In one the rupture occurred immediately after eating a hearty meal, with no external traumatism. Most of the ruptures were star-shaped, but in one case the spleen ruptured in a dozen places during an acute, comparatively recent malarial infection; no signs of traumatism could be discovered and an operation in time might have saved this patient.

Bulletin de la Soc. Med. des Hop. de Paris, November 14.

Methylene Blue in Treatment of Ulcero-Membranous Stomatitis. A. SIREDEY.—The affections of the throat caused by the spindle-shaped bacillus and spirillæ, have lingered for months in all the cases that have been reported. Siredey had occasion to treat a young man with this affection, the symptoms of a staphylo-palatine stomatitis predominating. He first painted the lesions with iodin, but found that they did not take the stain and the application had no effect. Remembering that these micro-organisms stain well with methylene blue, he treated the lesions by applying chemically pure methylene blue in powdered form on cotton wrapped on a stick, which he rubbed well on all the lesions. No inconveniences were observed except the blue stain of the saliva. The stomatitis was completely cured by the end of eight days; the blue had been applied six times.

November 21.

Serotherapy of Typhoid Fever. E. CHANTEMESSE.—For many years Professor Chantemesse has been making a special study of this subject, and in 1892 he succeeded in producing an antityphoid serum which had a preventive action. It was not curative as it had no antitoxic action, and it was impossible to make an actual antitoxin until 1897, when he succeeded in isolating the true, soluble typhoid toxin, and at once began to apply it for the production of an effective serum for clinical use. He now reports the results of its application in 100

cases of severe typhoid fever. As the mortality in typhoid fever varies so much in different epidemics, he has collected the records of the cases at the same hospitals during the same periods treated by other methods. He found that the mortality of the 371 cases that were treated in nine Paris hospitals between January 1 and October 10, 1901, ranged from 12.28 to 56 per cent., and averaged 29 per cent. He found incidentally, that 404 cases of typhoid fever in children at a children's hospital terminated fatally in 10 per cent. In his 100 cases every patient treated before the tenth day recovered, and all the others except 6. Two of these did not receive this treatment until after the twenty-first day; one died of pneumonia and another from the consequences of a pre-existing extensive gangrenous eschar. These 100 patients treated with the serum were all in the nine hospitals mentioned except 10 in his private practice. They were all "gravement ou serieusement" affected. As a general rule, the injection was followed a few hours later by a slight febrile reaction as in case of antitoxin treatment of diphtheria. In twenty-four to thirty-six hours after the injection the general health shows marked improvement; the diarrhea is arrested, or at most, persists only two to four days after the injection. The influence on the pulse and blood pressure is most marked, and the slower radial pulse immediately after the injection, is one of the most constant and most significant signs of improvement. It usually accompanied the fall of the temperature. The condition of the pulse twenty-four hours after the injection indicates whether the disease is yielding slowly or rapidly and whether a second injection is required. Three injections were made in some cases, but usually one or at most two are ample. With the injection of serum, cold baths to reduce the temperature are needed only for a short time. The serum has an evident diuretic effect. The polyuria may reach 3 or 4 quarts a day, and it keeps up after the temperature has been normal for days, but the chlorids are scanty until recovery is well under way. When the kidneys were sound before the typhoid infection, the albuminuria induced by it vanishes after the injection. Chantemesse urges that the patients should be made to drink copiously, a glass of water or tea every hour at least, in some form. The blood changes after the injection and assumes the characters it presents during normal convalescence, returning gradually to normal. Complications were rarely observed. Perforation of the intestines occurred only in 3 cases, never in any patient injected before the ninth or tenth day. Otitis media was observed in 3 and slight phlebitis of the saphena in 2. Clinical experience therefore has fully confirmed the results of experimental research in respect to this serotherapy of typhoid fever. It has proved to be preventive, anti-infectious and antitoxic. He injects the serum at the elbow, as he thinks the venous network is so extensive at this point that the serum is more rapidly absorbed than from the skin of the abdomen. There were no after-effects except a very slight erythema was observed in 2 cases. When possible to apply the injection at an early stage of the disease, in vigorous adults, able to take cold baths, 10 to 12 c.c. of the serum was the average dose. The reaction is brief, and complete apyrexia may follow in seven or eight days. If there is still slight fever at this time, the injection is repeated, the dose ranging from 4 to 10 c.c. according to the height of the fever. In case the disease is only five days old, or the intoxication is extremely profound or of long duration, it is better to commence with 6 to 8 c.c., ready to recommence a few days later. When the reaction to the injection is very pronounced, he suspends all food and administers water alone. Milk and the juice of raw meat are peculiarly beneficial in typhoid fever. Strict care of the mouth is the most effective means of preventing complications on the part of the lungs. The cold bath should be used freely, and should not be omitted to reduce the febrile reaction after the injection. He urges the injection of the serum on a presumptive diagnosis without waiting for certainty. It can do no harm and may possibly ward off an impending attack as in diphtheria. But the resemblance ceases here. In diphtheria the serum suppresses or diminishes the intoxication and the microbes are dislodged from their haunts in the throat. In typhoid fever, on the other hand, the microbes are in the inaccessible internal organs. They can be dislodged only by phagocytosis. The immunization of the horses whose serum is effective, was commenced five years ago. The animals die if the vaccination is carried on too vigorously. The expenses of the long and costly researches were defrayed partly by the Pasteur Institute and partly by the municipal authorities of Paris. A number of temperature curves are reproduced. In some the temperature makes an even downward slope after the single injection. In all there was a constant drop of the temperature after the injection.

Echo Medical (Lille), November 17.

Cure of Lead Colic by Epidural Cocainization. DELEARDE.—The pains were immediately arrested in two cases of lead poisoning described by Delearde, after the epidural injection of 0.03 gram of cocain dissolved in 3 c.c. of water. With the abolition of the pains the characteristic obstinate constipation was relieved also. Each patient had an alvine discharge the same day, the first for a long time, in spite of repeated purgatives.

Journal de Med. de Paris, November 3.

Spontaneous Resorption of a Cataract. TROUSSEAU.—A woman of 55 was operated on to relieve a severe attack of acute glaucoma. Iridectomy was done at the same sitting on both eyes, which had become affected in turn. A few months later a cataract began to develop in one eye, rendering it completely blind by the end of three months. Soon after this the cataract commenced to disappear, and in four months there was scarcely a trace of it left. Reuss reported a similar case last year; an elderly patient with glaucoma found that the cataract had been completely re-absorbed. He was able to collect 33 cases of spontaneous resorption of a cataract, and in more than half of them there was some complication—glaucoma in 7. Pathologic and especially glaucomatous eyes seem to be peculiarly favored with spontaneous disappearance of the cataract.

Presse Medicale (Paris), November 6.

Generalized Enterococcus Septicemia. J. HULOT.—The enterococcus should be considered as important a factor in pathology as the streptococcus and the pneumococcus. In a case of generalized septicemia induced by it, the symptoms developed in three weeks, commencing with gastro-intestinal phenomena, prostration and headache. The liver became painful and albumin appeared in the urine. Death occurred in dyspnea after defervescence. The liver presented the appearance of an old injury; possibly the enterococcus had determined lesions there before they had become generalized. The general affection was evidently the consequence of bad hygienic habits and the pressure of a corset.

Sodium Salicylate. A. MARTINET.—Besides its influence in rheumatism and the uric diathesis, sodium salicylate is distinguished by its remarkable influence on the modification of the secretion of bile. It is the most active remedy at our disposal against insufficiency of the liver functions and is the cholagogue par excellence. Owing to its depressing action on the heart and brain, most marked with impermeability of the kidneys, it is contra-indicated in case of excessive susceptibility of the nerve centers, of organic affections of the heart and complete or relative impermeability of the kidneys. These contra-indications are not absolute in case the patient can be supervised two or three times a day.

November 9.

Treatment of Gastric Stasis by Dry Evacuation of the Stomach. MATHIEU.—Occasionally the stomach may have to be irrigated, but usually aspiration of the contents is sufficient to relieve the symptoms which characterize Reichmann's disease. The empty stomach is thus evacuated by dry aspiration in the morning. Immediately afterward, 40 to 100 gm. of meat ground to a powder and stirred into a half or two-thirds of a liter of milk, are injected. This treatment has proved extremely successful except in cases complicated by

malignant disease. Mathieu's experience indicates that every case of stasis of the contents of the stomach or Reichmann's disease, which is not improved by this treatment, demands surgical intervention without delay.

Semaine Medicale (Paris), November 6.

Treatment of Diabetes Mellitus. R. LEPINE.—Diabetics can be classified as those with and those without diacetic acid in the urine. As long as there is no diacetic acid in the urine, the glycosuria may be diminished or disappear entirely on an appropriate diet and medication. In case of the presence of diacetic acid in the urine the glycosuria is a subordinate element and every effort should be made to banish this acid from the urine. If it persists in spite of this, the prognosis is almost invariably fatal. In treating diabetes it is well to commence by keeping the patient under observation for a few days in order to learn his habits of life. Whether glycosuria is due to a hyperglycemia or to an exaggerated permeability of the kidney, the ingestion of albuminoids must be restricted. Fats, like the proteids, may be a source of oxybutyric acid and its derivatives, diacetic acid and acetone. Lepine has one patient who excretes diacetic acid in increased amounts every time after ingestion of cream. Diaceturia may be diminished by an abundant carbohydrate diet, but this increases the glycosuria and is thus impracticable. Glycerin has been advocated as theoretically indicated in diaceturia, but has not established its claims in practice. Schwarz states that gluconic acid, that is, partially oxidized glucose, has a marked effect in diminishing diaceturia. He has recently published in the *Prag. Med. Wochenschrift*, July 25 and August 1, the account of a young man affected with severe diabetes and pulmonary tuberculosis. He fell into a comatose condition three times in the course of six weeks, with increased acetonuria and dyspnea. The first time, about 70 gm. gluconic acid were administered in a pint of water, neutralized by sodium bicarbonate, after he had lost consciousness. As much as 140 gm. of the latter were also given by the mouth or rectum. He revived at once and his condition remained satisfactory for three weeks, when another attack supervened, arrested in the same way by gluconic acid. Three weeks later a third attack occurred, and as there was no gluconic acid on hand, it was impossible to control it and the patient died. In this case the gluconic acid had evidently saved the patient twice. It seems to serve not only as a food to replace the sugar, but also as a direct curative agent. The case indicates that gluconic acid should be given a trial not merely in coma but also as a preventive measure beforehand. Until gluconic acid has been fully tested, large doses of sodium bicarbonate are the chief resort. It has saved a number of lives in Lepine's experience. One case required intravenous injection of two liters of a solution of sodium bicarbonate.

Bilateral Simultaneous Auscultation of the Lungs. BOURGET.—It is remarkable what delicate differences can be discovered between the two lungs when each ear is provided with a separate tube and funnel for auscultation. The funnels should be placed on symmetrical parts of the lungs. In healthy lungs the sounds blend into one uniform tone, but in case of a lesion in one lung, the difference between the sounds is striking and is most readily perceived by this comparative, simultaneous auscultation.

Centralblatt f. Chirurgie (Leipsic), November 9.

Silver Netting to Close Defect in Trachea. GROSSE.—A girl of 12 suffered from recurring inspiratory dyspnea from a tracheotomy performed nine years before. The walls of the trachea were drawn in during inspiration and the child could get only five to ten minutes' sleep at a time. A piece of silver wire netting, 2 cm. wide and 3 long, was bent to fit the throat and sutured with albumin bronze wire over the defect, outside of the mucosa. The trachea was stretched by this means and held in its normal position. The netting healed into the tissues without reaction and respiration became normal at once and has remained so for the fifteen months since the intervention.

November 16.

Present Status of the Glove Question in Surgery. HEILE.—A single anthrax bacillus may cause the death of a mouse, but in man a certain quantity is required before infection can be induced. This quantity varies with the resistance of the organism and Heile calls it the "infection coefficient," as it varies with every individual. He reports tests with thread gloves which showed that when the hands were much contaminated, the animals all died after protracted operating on them, whether gloves were used or not. But when the hands were scraped and considerable numbers of the germs removed, wearing gloves made a great difference in respect to the survival. Over 45 per cent. of the 34 rabbits in the tests remained alive. Other tests showed that changing the gloves four times during the course of an operation also aided in reducing the number of bacteria in the wound. The more closely woven gloves allowed only 5 per cent. of the germs to pass into the fluid while the old style of loosely woven gloves allowed the passage of 30 per cent. Tricot gloves absorb fluids and bacteria and retain them. They do not allow the passage of any more bacteria than normally alight on the hands or gloves from the air in operating. A number of further tests are reported which show that the entrance of spectators into an operating room immeasurably increases the number of germs. Other tests proved that in changing dressings which have dried on or become adherent from the secretions of the wound or the pus, particles of the dried secretions are flung around and alight on the instruments, and on the blouse aprons of the operator and assistants. The bacteria continue their development on these aprons undisturbed for hours, and thus the wearer of the apron is carrying a dangerous focus of infection around with him. Even fifteen vigorous and separate disinfections of the hands in the course of three days, failed to destroy all the prodigiosus bacteria in the tests described. The best plan therefore is to refrain from contact with septic matters by wearing rubber gloves during septic operations on infected tissues. When this is not possible, thread gloves should be worn during aseptic operations. Rubber gloves are not only unsuitable in aseptic operations, but absolutely dangerous, as there is danger of some slight rip or tear and the hand perspires so freely in them that thousands of bacteria are poured out on the surface of the skin.

Deutsche Med. Wochenschrift, November 14.

Improved Technique for Stethoscopy to Determine the Outlines of Internal Organs. E. REICHMANN.—Supplementing the ordinary methods of percussion and auscultation Reichmann uses a round stick about 7 cm. long by 1 cm. in diameter. The top is flat, the lower end rounded. The space between is cut out like a screw thread; only the grooves are circular, horizontal and parallel instead of spiral. The rounded end is placed on the skin and the forefinger applied to the top, holds it upright firmly pressed against the skin. The fingers of the other hand—not the nails—are rubbed up and down over the grooves while listening through the stethoscope. The sound of the rubbing is very distinct, even when the stick is held a little from the skin, but the moment it is applied over the edge of some internal organ the sound becomes muffled. It is possible by this abrupt change in the sound to locate the outlines of the internal organs with remarkable precision.

Muenchener Med. Wochenschrift, November 12.

New Points of View in the Treatment of Albuminuria. P. EDEL.—The decrease in the albumin during the afternoon in cases of cyclic albuminuria is due to the midday meal. If the hour of the meal is changed, the hours of diminished albuminuria vary with it. When the kidneys show marked albuminuria, and under the most favorable conditions for its production, the administration of potassium acetate will completely arrest it while the organism is under the influence of the drug. This effect on the albuminuria parallels the diuretic action of the acetate. Hot baths have the same influence as diuretics; the urine becomes clearer and more abundant, while the proportion of albumin diminishes. The same

effect is produced by assuming the horizontal position, probably owing to the more favorable conditions for the circulation. Dietetic treatment of albuminuria, alkaline waters, vegetables, etc., probably owes its success to the increased diuresis which it induces. These assertions are the conclusions of much research, the particulars of which are given in tabulated form.

Laryngeal Tuberculosis and Pregnancy. A. KUETTNER.—Seven cases have been published of pregnancy occurring with laryngeal tuberculosis, and Kuettner has collected 15 more. His conclusions from these and 10 or 12 other cases less carefully observed, are that tracheotomy should be postponed until required to prevent suffocation. It should be done as a preliminary to delivery in advanced cases, or at least, should be done during delivery at the first symptoms of suffocation. The earlier the pregnancy is interrupted, the better the chances for the mother. None of the children were born at term, but all were alive and 3 are still living. The mothers all died within two months after delivery, in the cases followed. In 12 of his cases there were no, or minimal, signs of tuberculosis on the part of the lungs; in 3, pulmonary tuberculosis was evident before the pregnancy. In 2 cases the laryngeal tuberculosis appeared in the sixth month, and in 12 in the first half of pregnancy.

Serum Treatment of Basedow's Disease. MOEBIUS.—Serum from animals deprived of their thyroid glands was applied in the treatment of three cases of Basedow's disease, with marked improvement as the result. No albuminuria was observed. Meat from such animals might prove as effective as the serum, Moebius suggests.

Wiener Klin. Wochenschrift, November 14.

Influence of Diet on Course of Epilepsy. H. SCHLOESS.—A medical writer in the time of Trajan called attention to the unfavorable influence of a meat diet on the course of epilepsy. Schloess, after considerable study of the subject, found that an exclusive milk and vegetable diet had as little influence in diminishing the number of the attacks as a meat diet in increasing them. Depriving epileptics of salt in their food during the administration of the bromids, always reduced the number of the seizures. The psyche is not affected by this measure, but the patients lose in weight and become weak. Fats and acids and the moderate use of alcohol, as much as a liter of light beer during the day, had no influence in increasing the number of the seizures.

Juvenile Tabes. H. V. HALBAN.—Tabes can not develop without preceding lues; this statement of Halban's is based partially on the development of tabes in three cases of juvenile syphilis, inherited or acquired in infancy. The symptoms were about the same in all three and the cases were distinguished by the remarkable absence of subjective disturbances. The patients applied to the physician for some other reason than the incipient tabes, which he at once recognized. The youthful nervous system probably reacts differently to syphilitic intoxication than the adult.

Revista Med. del Uruguay (Montevideo), September.

Surgery of the Lung. J. H. OLIVER.—Only seven cases of tubercular cavities in the lungs communicating with an abscess in the costal wall, have been reported in the literature according to Oliver. In three the cavity was an operative surprise, as the intervention had been undertaken merely for the relief of the external abscess. In these cases there was no communication between the abscess, the cavity and the air passages. Tuffier has stated that only 13 survived out of 26 cases of tubercular cavities he has operated on and only one for more than five years; two died the second or third year; the others were followed for only two or three months. Only one of Hahn's four or five patients has survived ten years. The mortality was 20 per cent. in the cases of cavities communicating with an external abscess, and the ultimate results are no more favorable than in the other categories. Oliver reports a case diagnosed and operated on as a "shirt-stud" tubercular abscess. The tubercular cavity below was not found until at a second operation. The symptoms of the disease vanished after the intervention, and complete clinical recovery has persisted to date, more than eight and one-half years after the intervention. The patient has been a carpenter and is now working in the dust of a tobacco factory, with no recurrence of the old symptoms, not even after a severe intercurrent attack of la grippe.

Books Received.

BERICHT Ueber die in der Züricher Chirurgischen Klinik in den Jahren 1881-1900 Behandelten Fälle von Offenden Wunden des Abdomens. Inaugural-Dissertation zur Erlangung der Doktorwürde der Hohen Medicinischen Fakultät der Universität Zurich, vorgelegt von George Howard Hoxie, aus Cambridge, New York, U. S. A., Genehmigt auf Antrag der Herrn Prof. Dr. Krönlein. Paper. Pp. 54. Tübingen: Druck von H. Laupp, Jr. 1901.

ANATOMY IN ITS RELATION TO ART. An Exposition of the Bones and Muscles of the Human Body with Especial Reference to Their Influence Upon Its Actions and External Form. By George McClellan, M.D., Professor of Anatomy of the Pennsylvania Academy of Fine Arts. Illustrated by 338 Original Drawings and Photographs Made by the Author and Expressly Prepared for This Work. Cloth. Pp. 133. Price, $10.00. Philadelphia and London: W. B. Saunders & Co. 1901.

AN INTRODUCTION TO THE CHEMICAL ANALYSIS FOR STUDENTS OF MEDICINE, PHARMACY AND DENTISTRY. By Elbert W. Rockwood, M.A., M.D., Professor of Chemistry and Toxicology in the College of Medicine. Illustrated. Cloth. Pp. 255. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND: 103d Annual Session, Held at Baltimore, April, 1901; also Semi-Annual Session, Held at Towson, Md., November, 1900. Paper. Pp. 108. Baltimore: The Deutsch Company.

AN INTRODUCTION TO THE BACTERIOLOGICAL EXAMINATION OF WATER. By W. H. Horrocks, M.B., B.Sc., Lond., Assistant Professor of Military Hygiene in the Army Medical School, Netley. Cloth. Pp. 300. Price, $3.68 net. Philadelphia: P. Blakiston's Son & Co. 1901.

OFFICIAL LIST OF THE COMMISSIONED AND NON-COMMISSIONED OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE. Also List of U. S. Marine Hospitals and Quarantine Stations. July, 1901. Paper. Pp. 24. Washington: Government Printing Office. 1901.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XIX. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 514. Printed for the Association. Philadelphia: William J. Dornan. 1901.

MEMOIRS AND LETTERS OF SIR JAMES PAGET. Edited by Stephen Paget, One of His Sons. With Portraits and Other Illustrations. Cloth. Pp. 438. Price, $5.00. New York and Bombay: Longmans, Green & Co. 1901.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY for 1902. New Revised Edition. Leather. Price, 30 patients per week, $1.25; 60 patients, $1.50. New York: Wm. Wood & Co. 1901.

SIXTH AND SEVENTH ANNUAL REPORTS OF THE CHICAGO BUREAU OF CHARITIES, for the Fiscal Year ending Oct. 31, 1900, and for the Seven Months Ending May 31, 1901. Paper. Pp. 48.

REPORT OF THE SURGEON-GENERAL, U. S. NAVY, Chief of the Bureau of Medicine and Surgery, 1901. Paper. Pp. 328. Washington: Government Printing Office. 1901.

REPORT OF THE MEDICAL COUNCIL OF PENNSYLVANIA, 1899. Paper. Pp. 140. State Printer: Wm. Stanley Ray. 1899.

Queries and Minor Notes.

DENTAL CARIES IN PREGNANCY.

PHILADELPHIA, Nov. 14, 1901.

To the Editor:—Kindly give me information in regard to the literature, essays, etc., pertaining to the subject of the preventative treatment of caries of the teeth occurring in pregnancy and lactation. S. L. F.

ANS.—The principal literature on the subject is to be found in the files of dental journals. There is little to be found in textbooks.

NOTICE OF CHANGE OF RESIDENCE.

CHARLOTTE, W. VA., Nov. 23, 1901.

To the Editor:—Recently, I changed my residence from Point Creek to this city to practice my profession. Will you please advise me if I would be doing anything ethically wrong to insert a card in the daily papers notifying my friends and patients of the change? H. G. N.

ANS.—It is always a good plan when one is in doubt to err on the right side. The fact of making the inquiry shows that our correspondent's conscience is pricking him a little. It would be much better to send a card announcing his removal to his patients rather than to insert a card in the newspapers.

ENGLISH DISTINCTION OF DR. AND MR.

ELK RIVER, MINN., Nov. 30, 1901.

To the Editor:—Will you kindly explain why some English physicians bear the title of "Mr." and others that of "Dr."? Conan Doyle, the novelist, is Dr. Conan Doyle; Sir Joseph Lister, the eminent surgeon, is Mr. Lister. Why is the distinction?

C. Q. S.

ANS.—Generally speaking, those who are designated "Mr." are supposed to be surgeons, and "Dr.," physicians. No one has a right to the title "Dr." unless he holds a Doctor's degree. The M.D. degree is conferred in Great Britain and Ireland only by Universities, and is preceded by the bachelor's degree. The right to practice is conferred by various bodies, among these being the Royal College of Surgeons, the Royal College of Physicians of London, and the Royal College of Physicians of Edinburgh. These grant L.R.C.P. or S., M.R.C.P. or S., F.R.C.P. or S. degrees, which do not carry with them the title of "Doctor." Arthur Conan Doyle, the author, received the M.B., C.M., in 1881, and the M.D. from the University of Edinburgh, in 1885. Joseph (now Lord) Lister received the B.A. degree in 1847, the F.R.C.S. and M.B., in 1852, and various other degrees since then, but not the M.D. until it was conferred (honoris causa) by Trinity College, Dublin, in 1879. After this Lister was entitled to the title "Doctor."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Nov. 21-27, 1901, inclusive:

Roger P. Ames, captain and asst.-surgeon, Vols., leave of absence for two months granted.

Bailey K. Ashford, lieutenant and asst.-surgeon, U. S. A., former orders, relieving him from duty at Fort Slocum, N. Y., and assigning him to duty in the Department of Cuba, revoked.

Alexander F. Bacon, contract dental surgeon, now in Washington, D. C., to proceed via Tampa, Fla., to Havana, Cuba, for duty in the Department of Cuba.

David Baker, lieutenant and asst.-surgeon, U. S. A., former orders so amended as to relieve him from duty on the transport *Meade*, and from further duty in the Division of the Philippines, to assign him to duty in the Department of California.

James L. Bevans, contract surgeon, from duty at the General Hospital, San Francisco, Cal., to Decatur, Ill., for annulment of contract.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., from Fort Sill, Okla., to post duty at Fort Leavenworth, Kan.

Peter C. Field, lieutenant and asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to duty at Fort Robinson, Neb.

Arthur C. Heffenger, contract surgeon, now at Portsmouth, N. H., is assigned to duty at Fort Constitution, N. H.

Edward F. Horr, captain and asst.-surgeon, Vols., leave of absence for two months granted.

Thomas A. Marshall, captain and asst.-surgeon, Vols., recently appointed and now at Bedford City, Va., to proceed via San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

John A. Murtagh, lieutenant and asst.-surgeon, U. S. A., from the general Hospital, Presidio of San Francisco, Cal., to report to the commanding officer at Fort Columbus, N. Y., for temporary duty with troops sailing for Manila, P. I., on the transport *Buford*, about Jan. 15, 1902. On arrival at Manila, he will report for assignment in the Division of the Philippines.

Henry Page, lieutenant and asst.-surgeon, U. S. A., member of an examining board at Fort Monroe, Va., vice Lieut.-Col. Robert M. O'Reilly, deputy surgeon-general, U. S. A., relieved.

David M. Roberts, contract surgeon, from temporary duty at Fort Bliss, Tex., to duty at Fort Sam Houston, Tex.

Erle H. Sargent, contract surgeon, from Vancouver Barracks, Wash., to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Albert H. Simonton, contract surgeon, from Fort Robinson, Neb., to Birmingham, Ala., for annulment of contract.

Charles F. Williams, contract surgeon, relieved from duty at Fort McPherson, Ga., to accompany the First Battalion of the 27th Infantry en route to the Philippine Islands, and to report at Manila, P. I., for assignment to duty in the Division of the Philippines.

APPOINTMENTS, PROMOTIONS, RETIREMENTS, ETC.

Regular Army Appointments.—To be assistant-surgeons, with the rank of first lieutenant, dating from Oct. 12, 1901: Wilfrid Turnbull, of Pennsylvania. Dating from Oct. 30, 1901: Walter C. Chidester, of Ohio; Reuben B. Miller, of Illinois; Charles A. Ragan, of Tennessee; William R. Eastman, of Virginia; George W. Jean, of Kentucky; James F. Hall, of Massachusetts; Raymond F. Metcalfe, of New York; Edwin W. Rich, of Massachusetts; Perry L. Boyer, of Virginia, and James L. Palmer, of Illinois.

Promotions.—Major Valery Havard, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, Oct. 24, 1901; Captain Ogden Rafferty, asst.-surgeon, to be surgeon, with the rank of major, Oct. 24, 1901. The following-named assistant-surgeons were advanced to the grade of captain, Oct. 26, 1901, by reason of having served five years: Basil H. Dutcher, Leigh A. Fuller, Franklin M. Kemp, George A. Skinner, and Carl R. Darnall.

Retirements.—Lieutenant-Colonel Ezra Woodruff, deputy surgeon general, Oct. 24, 1901.

Wholly retired, for disability not incident to the service: First Lieutenant Henry E. Wetherill, asst.-surgeon, Oct. 16, 1901.

Resignations.—First Lieutenant Clarence B. Millhoff, asst.-surgeon, Nov. 5, 1901.

Volunteers, Appointments.—To be surgeons, with the rank of major: John C. Greenewalt, of Pennsylvania, Sept. 20, 1901; Captain George B. Lawrason, asst.-surgeon, Oct. 10, 1901; Captain Charles B. Nichols, asst.-surgeon, Oct. 31, 1901; Captain Charles H. Andrews, asst.-surgeon, Oct. 31, 1901; Captain Matthew Leepere, asst.-surgeon, Nov. 5, 1901, and Frank H. Titus, of California, Nov. 5, 1901. To be assistant-surgeons, with the rank of captain: Luther S. Harvey, of Florida, Aug. 12, 1901; Edwin M. Trook, of Indiana, Sept. 21, 1901; William P. Baker, of Oklahoma, Oct. 2, 1901; Josiah M. Ward, of North Carolina, Oct. 10, 1901; Frank L. R. Tetamore, of New York, Oct. 10, 1901; Edward N. Bowen, of Massachusetts, Oct. 23, 1901; Luke B. Peck, of Massachusetts, Nov. 5, 1901, and Harry A. Eberle, of Ohio, Nov. 8, 1901.

Honorably Discharged.—Captain Frank P. Kenyon, asst.-surgeon, Oct. 23, 1901, and Major Ernest K. Johnstone, surgeon, Nov. 2, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Nov. 30, 1901:

Asst.-Surgeon J. J. Snyder, ordered home and granted three months' sick leave.

Asst.-Surgeon Edgar Thompson, detached from the Naval Hospital, Chelsea, Mass., and to duty at the Charleston Exposition in charge of the exhibit of the Medical Department of the Navy, and in attendance on the Marine Guard and the Marine Recruiting Rendezvous.

Medical Director R. C. Persons, commissioned medical director from Nov. 3, 1901.

Medical Inspector E. H. Green, commissioned medical inspector from Nov. 3, 1901.

Surgeon N. H. Drake, detached from duty as member of the Medical Examining Board, Naval Laboratory, New York, and ordered home to wait orders.

Surgeon A. C. H. Russell, ordered to duty as member of the Medical Examining Board, Naval Laboratory, New York, December 4.

Asst.-Surgeon D. G. Beebe, resignation accepted, to take effect Nov. 30, 1901.

Asst.-Surgeon Edgar Thompson, commissioned a P. A. surgeon from April 19, 1901.

Dr. J. B. Buchanan, appointed an asst.-surgeon in the Navy from Nov. 23, 1901.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Nov. 30, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 10-17, 1 case.
Illinois: Chicago, Nov. 16-23, 4 cases.
Indiana: Evansville, Nov. 16-23, 2 cases.
Louisiana: Nov. 16-23, New Orleans, 10 cases, 1 death; Shreveport, 3 cases.
Massachusetts: Nov. 16-23, Boston, 37 cases, 4 deaths; Cambridge, 3 cases; Chelsea, 1 case; Everett, 1 case; Newton, 1 case; Somerville, 1 case.
Minnesota: Minneapolis, Nov. 9-23, 5 cases.
Missouri: St. Joseph, Sept. 1-Oct. 31, 80 cases.
Nebraska: Omaha, Nov. 16-23, 4 cases.
New Jersey: Camden, Nov. 16-23, 1 case; Jersey City, Nov. 19-26, 9 cases; Newark, Nov. 18-25, 25 cases, 2 deaths.
New York: New York, Nov. 16-23, 6 cases, 1 death.
Ohio: Nov. 16-23, Ashtabula, 1 case; Cincinnati, 3 cases.
Pennsylvania: Allegheny City, Nov. 16-23, 2 cases; Lebanon, Nov. 16-23, 2 cases; Norristown, Oct. 12-Nov. 23, 39 cases, 5 deaths; Philadelphia, Nov. 16-23, 46 cases, 7 deaths.
Tennessee: Nashville, Nov. 16-23, 1 case.
Utah: Salt Lake City, Nov. 9-23, 4 cases.
Vermont: Burlington, Nov. 16-23, 1 case.
Washington: Tacoma, Nov. 9-16, 1 case.
Wisconsin: Green Bay, Nov. 17-24, 6 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Sept. 1-30, 93 deaths.
Brazil: Pernambuco, Oct. 1-15, 74 deaths.
Canada: Nova Scotia, Halifax, Nov. 16-23, 10 cases.
Colombia: Cartagena, Nov. 4-11, 3 deaths; Panama, Nov. 11-18, 125 cases.
France: Nice, Oct. 24-31, 2 deaths; Paris, Nov. 2-9, 4 deaths; St. Etienne, Oct. 18-31, 1 case.
Great Britain: Glasgow, Nov. 9-16, 1 case; London, Nov. 2-9, 297 cases, 19 deaths.
Russia: Moscow, Oct. 26-Nov. 2, 16 cases, 2 deaths; Odessa, Nov. 2-9, 5 cases, 2 deaths; St. Petersburg, Oct. 26-Nov. 9, 4 cases, 1 death; Warsaw, Oct. 26-Nov. 2, 1 case.
Spain: Malaga, Oct. 26-Nov. 2, 4 deaths.
Uruguay: Montevideo, Sept. 21-Oct. 12, 161 cases, 15 deaths.

YELLOW FEVER.

Brazil: Pernambuco, Oct. 1-15, 1 death.
Mexico: Merida, Oct. 26-Nov. 2, several cases; Valladolid, Oct. 26-Nov. 2, several cases; Vera Cruz, Nov. 9-23, 41 cases, 12 deaths.

CHOLERA.

India: Bombay, Oct. 22-29, 1 death; Calcutta, Oct. 12-26, 55 deaths; Madras, Oct. 19-25, 40 deaths.
Java: Batavia, Oct. 12-19, 25 cases, 20 deaths.

PLAGUE—FOREIGN AND INSULAR.

Great Britain: Liverpool, Nov. 7, 1 death.
India: Bombay, Oct. 22-29, 191 deaths; Calcutta, Oct. 12-26, 36 deaths; Karachi, Nov. 13-20, 20 cases, 9 deaths.
Russia: Odessa, Oct. 31-Nov. 9, 1 death.
Hawaiian Islands: Honolulu, Nov. 8-10, 1 death.